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ABSTRACT

This report describes activities and accomplishments of a four-year project to develop a doctoral program at the University of Kansas Medical Center to prepare teacher educators, researchers, supervisors/managers, and clinicians in programs in either deafness or learning disabilities and in a combined deafness and learning disabilities program. Innovative aspects of the program centered on the merging of philosophies and service delivery approaches across the fields of deafness and learning disabilities. Theory and practice were explored to identify common and unique contributions of the two fields and content and experiences applicable to both fields were incorporated into core course work and practica. Stipends or teaching assistantships were provided to approximately 40 students. The project also provided support for students to travel to conferences. The project's most significant accomplishments were the leadership program's national reputation and its cooperative relationship with other agencies. Individual sections of the report address the project's purpose, objectives, and accomplishments. Appendices include the program design, performance objectives, the management plan, the evaluation plan, and the following reprints: "Some Thoughts on Models of Inclusion"; "Creating the 'Write' Environment for Young Deaf Children"; "Social Interaction: Assessment and Intervention with Regard to Students Who Are Deaf"; "Communication Tips for General Educators Teaching Children Who Are Deaf or Hard of Hearing"; "Classrooms, Communication, and Social Competence"; "Basic Interpreting Strategies for Parents"; "Three PSE Studies: Implications for Educators"; "Parent Advocacy for the Nonexclusion of Students Who Are Deaf or Hard of Hearing"; "Deaf Culture for Hearing Families with Deaf or Hard of Hearing Children"; "Research-Based Language Intervention Strategies Adapted for Deaf and Hard of Hearing Children" "Deaf Education in Rural/Remote Areas: Using Compressed/Interactive Television"; "In-Service Trends: General Education Teachers Working with Educational Interpreters" and "Essential Practices as Adults Read To Meet the Needs of Deaf or Hard of Hearing Students". (DB)

ED 422 672

FINAL PERFORMANCE REPORT

Preparation of Leadership Personnel: Combined Deaf Education/Learning Disabilities

84.029D
Grant #HO 29D 30036
Budget and Award Year
1993-1994
1994-1995
1995-1996
1996-1997

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PROJECT ABSTRACT

The purpose of the proposed project was the preparation of leadership personnel in fields related to the education of handicapped children and youth (PL 91-230 as amended, Title VI, Part D, Section 631). Specifically, the project included three specialized options which combined Deaf and Learning Disabilities (DLD), Deaf or Learning Disabilities (LD) into doctoral programs to prepare participants to assume positions as teacher educators, researchers, supervisors/managers, and clinicians. Recent data on demand and supply in these professional roles indicate that the need for combinations of exceptionaiities such as Deaf/LD and positions for Deaf and Learning Disabilities personnel are increasing.

Innovative aspects of the doctoral preparation program centered on the merging of philosophies and service-delivery approaches across related fields of deafness and learning disabilities. Theory and practice were explored in depth to identify common and unique contributions of the two fields to leadership in teacher training, research, clinical practice and supervision and management of programs. Content and experiences applicable to both fields were incorporated into core course work and practica under the supervision of a Director and Program Associate as team teachers. Points at which the two fields diverge are addressed by the Program Associate as team teachers. Points at which the two fields diverge are addressed by the faculty member with expertise in the applied area. Resources of the present separate doctoral programs are combined in varied ways to produce the new curriculum; however, the proposed program is viewed as offering benefits beyond the additive nature of the two separate sequences because the value of the interaction of theory and practices across fields creates novel learning opportunities.

Major resources needed for the project were already in place at the University of Kansas

Medical Center, which contributed faculty salaries, classroom and study space, computer and video equipment, supplies, practicum and research sites, and libraries. Federal funds were used primarily to provide stipends for students to supplement their incomes to permit them to engage in full-time study so they could complete the program within three years.

Administration of the proposed project was shared by a Director and a Program Associate, both of whom were Professors of Special Education authorized to chair doctoral dissertations. The Director is also a member of the Department of Hearing and Speech and it is that department which was responsible for the management of the project. They were assisted by five additional area-specific faculty, a number of faculty members teaching generic course work, and initially a Project Coordinator.

The Program Design incorporated generic, area-specific, and role-specific competencies. The Management Plan employed a Management Team to monitor each participant's progress through procedural Performance Objectives, and an Advisory Committee, Departmental Standards Committee and the Director and Program Associate to monitor participant's academic progress toward meeting substantive competencies. The Evaluation Plan provided data related to students' progress.

The projected outcome of the project over the four-year funding period was the preparation of doctoral-level leadership personnel who could assume positions as teacher educators, researchers, supervisors/managers or clinicians to work both directly and indirectly to benefit children and youth with deafness and learning disabilities and their families.

Project Narrative

The primary purpose of The University of Kansas Deaf Education doctoral graduate program was to provide leadership personnel through preservice graduate preparation of teacher educators, researchers, clinicians, and supervisors/managers in fields related to the education of children and youth with deafness or learning problems. Because these children display varying and distinct skills, it is the philosophy of the program to prepare individuals who are capable of both effective communication and use of the most current methods in the education of children and youth who are deaf or hard of hearing in addition to employing a comprehensive and interdisciplinary approach to classroom and community instruction, incorporating a variety of educational and cultural philosophies accessed from several professional disciplines. Differences rather than deviancy is emphasized in all aspects of training.

Further, it was the purpose of the University of Kansas Deaf Education program to facilitate an interaction with children who are deaf and hard-of-hearing that respects and enhances their dignity and reflects to society and other professionals their positive attributes, learning potential, individuality, and bilingual/bicultural heritage.

The Department of Hearing and Speech at KU Medical Center offered a variety of programs to prepare graduate students for work with infants, toddlers, preschoolers, elementary, and secondary youth who are deaf or hard-of-hearing in addition to training teacher educators. Study of deaf-blind children is possible through the Department of Special Education. All programs were offered on a part-time or full-time basis.

Resources at KU Medical Center included an excellent staff and facilities, enhanced by the cooperation between the Hearing and Speech Department and Special Education Department. In

addition, the Kansas City area is rich in resources for those pursuing deaf education. More than 10,000 people who are deaf reside in the area. A sensitivity to deafness is commonplace, with many public events interpreted. Institutions serving the deaf are located near KU Medical Center. These include: the Kansas State School for the Deaf in Olathe and both the Gallaudet Regional Center and the Interpreter Training Program at Johnson County Community College in nearby Overland Park, KS. There is an active Kansas Commission for the Deaf and Hard of Hearing, Kansas Parents of the Deaf Association, and Kansas Association of the Deaf, all of which meet regularly in the area.

PROJECT INTENT

Purpose/Goal

The broad purpose/goal of the personnel preparation project, within the mission of the Department of Hearing and Speech, was the preparation of leadership personnel in fields related to the education of handicapped children and youth (PL 91-230 as amended, Title VI, Part D, Section 631). Specifically the project included three specialized options which combined Deaf and Learning Disabilities (DLD), Deaf or Learning Disabilities (LD) into doctoral programs to prepare participants to assume positions as teacher educators, researchers, supervisors/managers, and clinicians. The program resulted in the following outcomes, which were operationalized in terms of Performance Objectives within the Plan of Operation:

1. Teacher educators employ advanced course work and practica in preparing competent special educators to provide direct and consultative educational services for students with disabilities.
2. Clinicians in public agencies or private practice, provide diagnostic services and intervention programs for children and youth with deafness and learning problems and their families.
3. Supervisors/Managers serve as resource persons for professional personnel, monitor ongoing instructional methods, and arrange efficient means to deliver and evaluate educational and related services for children and youth with deafness and learning problems.

The benefits of achieving the stated training project's goals were directly related to the training of leaders in the fields of deafness, learning disabilities and deaf/learning disabilities which

will impact the educational needs of children who are deaf and hard-of-hearing or learning disabled. These infants, toddlers, children, and youth need competent (a) teachers, (b) researchers, (c) clinical practitioners, and (d) program managers. Such personnel did not only act as advocates for quality implementation of what was currently known about educational programs, but also pursued activities leading to new knowledge, and applied said activities into program improvement.

The Department of Hearing and Speech requested federal funds for partial support of Deaf-Learning Disabilities (DLD), Deaf, and Learning Disabilities (LD) doctoral programs. University contributions, as were described in the budget section of the project, far exceeded the federal support requested in this project. With stipend funds and the limited support money requested for program resources, the doctoral program attracted students who would otherwise not have been able to afford full-time graduate study. Support provided through stipends and graduate teaching assistance ships (GTA) permitted the combined doctoral program to meet a documented need for doctoral-level personnel in special education.

The majority of requested funds were used to support full-time and part-time students each semester in special education doctoral programs. With these funds and program resources, the program functioned at a high level of efficiency and effectiveness. Preference for support was given to full-time versus part-time trainees whenever possible.

PROJECT OBJECTIVES

Background

The application for this 4-year grant was made in the fall, 1992, by Dr. Barbara Luetke-Stahlman, Director of the Deaf Education program at the University of Kansas Medical Center,

and was approved the following May, 1993.

Program Design Summary

Table 1 (appendix A) displays the Program Design that integrated essential elements of the student's program. The table is included to display the relationship of the project design to the formulation of performance objectives.

Doctoral Program Performance Objectives

Performance objectives for the doctoral program in Special Education were listed in Appendix B. There were, as can be noted, performance objectives for each portion of the project design: resources, activities, and outcomes for each trainee. A timeline can also be found in Appendix B for one year.

Management Plan

The project proposals for Year 1, 2, 3, and 4 included a thorough management and evaluation plan. Each section of the management plan has a number of actions and responsibilities under it. Actions and the individuals assigned to complete them assure that the project design was followed, appropriate data were generated for use in completing the evaluation plan. This plan can be found in Appendix C.

The Evaluation Plan utilized in Year 4 was internally consistent with design, objectives and management. Current evaluation summation documents completed by the graduate of this project confirm that she is well-trained and sought by employers. See Appendix D.

ACCOMPLISHMENTS

The following section of this report provides a brief summary of activities and outcomes associated with the program. The summary narrative is specifically focused upon

accomplishments in relationship to (a) performance objectives, (b) management plan operations, and (c) information related to the evaluation plan.

Accomplishments of Year 1 (1993-1994)

The focus of the grant the first year was on advertising and recruitment. A brochure was developed with a description of the project and financial aid. This brochure was distributed with the University of Kansas approved doctoral packets to prospective students. Prior to the completion of the Brochure, the one-page notice used for the Special/Net advertisement was enclosed in the packets.

Faculty members from the Deaf/LD areas reviewed and accepted into the Learning Disabilities program, one stipend award while four partially completed application forms were being processed.

Description of the trainees receiving support either through stipends or a *graduate teaching assistanceship (GTA) is provided, along with their major field of study were as follows:

FALL 1993

NAME	MAJOR
Scott, Vicki	Learning Disabilities
In the acceptance process:	
Bighley, Annette	Deaf/Learning Disabilities
Brown, Sharon	
Stryker, Deborah	Deaf/Learning Disabilities

SPRING 1994

For the Spring 1994 semester, two students received funding, one in the form of a stipend

and the other as a GTA*. Trainees were:

Bighley, Annette*	Deaf/Learning Disabilities
Scott, Vicki	Learning Disabilities

SUMMER 1994

For Summer 1994 semester, three students received support, one was a GTA*. Trainees were:

Bighley, Annette*	Deaf/Learning Disabilities
Scott, Vicki	Learning Disabilities
Stryker, Deborah	Deaf/Learning Disabilities

Student Activities

During the Spring 1994 semester, the Deaf Education department assisted in sponsoring the state of Kansas' teachers of the deaf annual meeting. Annette Bighley, doctoral student in deaf/learning disabilities, planned, organized and co-hosted the Kansas Educators of the Hearing Impaired's spring meeting with the PI, Barbara Luetke-Stahlman. Attendance was high (80 people) and participants were extremely impressed with the level of presentations offered. The PC, Cherie Davis presented at this conference as well as the PI and another doctoral student, Deborah Stryker.

Accomplishments for Year 2 (1994-1995)

For the Fall 1994 semester, the program was advertised in state, regional and national professional journals, newsletters, and SpecialNet. The brochure and flyer developed in the first year of the project was sent to all inquiring students. A three part standing poster board with pictures of students involved in activities and advertisement materials was displayed at the

national Issues in Language and Deafness conference and the Kansas Educators of the Hearing Impaired conference.

A deaf applicant, Jana Lollis, was accepted to the deaf education doctoral program. Personnel in charge of support services at Lawrence, Regents Center, and Medical Center campuses were contacted to ensure smooth provision of interpreter services.

Vicky Scott completed her doctoral program.

FALL 1994

Two students were awarded stipends or GTA* funds. Trainees and their major field of study were as follows:

NAME	MAJOR
Bighley, Annette*	Deaf/Learning Disabilities
Stryker, Deborah	Deaf/Learning Disabilities

SPRING 1995

Advertising continued in the Spring 1995 semester regionally and nationally through professional journals, newsletters, and SpecialNet. The three panel standing poster board was again displayed, this time at the Missouri teachers of the deaf conference, Show Me, to continue to enhance recruitment.

One student was awarded GTA* funds. The trainee and her major field of study were:

Bighley, Annette*	Deaf/Learning Disabilities

SUMMER 1995

Cherie Davis, PC, left the project. Dr. Luetke-Stahlman, PI, assumed her duties on the project. Funding was offered to doctoral students in Special Education who did not have federal

personnel support as long as they were mentored by a KU SPED faculty member and came highly recommended to the PI. Most of the students were studying learning disabilities to some degree in their program. Funds, either stipend or GTA*, were provided to the following 25 students:

Beal, Halina	Learning Disabilities
Bighley, Annette*	Deaf/Learning Disabilities
Bock, Stacy Jones	Behavioral Disorders (BD)/Autism
Clutter, Sandy	Learning Disabilities
Conroy, Christine	Learning Disabilities
Earles, Teresa	BD/Autism
Egnor, Dave	Learning Disabilities
Emery, Sandra	Learning Disabilities
Fisher, Joseph	Learning Disabilities
Gelpi, Tina	Occupational & Physical Therapy
Glaeser, Barbara	Learning Disabilities
Lance, Denise	Special Education Technology
McGrew, Kenneth	Special Education
O'Neill, Susan	Learning Disabilities/BD
Otto, Kathy	Learning Disabilities
Seybert, Linda	Learning Disabilities
Shumate, Elaine	Learning Disabilities
Spurling, Bruce	Learning Disabilities
Southwick, Kenny	Learning Disabilities

Stabb, Mary Jo	Learning Disabilities
Swaggart, Brenda	BD/Autism
Swartz, Laura	Learning Disabilities
Swenson, Nora	Learning Disabilities
Swisher, Judy	Special Education
Whitaker, Mary	Learning Disabilities

Student Activities:

At the beginning of the Fall 1994 semester, trainees and either Dr. Floyd Hudson or Dr. Cherie Davis, PC, met individually to formulate doctoral program plans. These plans were developed by considering previous educational and vocational experiences, current course work, and available options to supplement their background in areas where they had less expertise.

Full-time students under this project assisted within the Deaf Education department or the Learning Disabilities department. Tasks included: conducting library searches, coding data, gathering research, proof reading drafts of manuscripts and reports, synthesizing data gathered from field research, and assisting in the professors preparation for classes, etc.

Student Travel:

***Issues in Language and Deafness**. Two doctoral students and the two deaf education faculty attended the Issues in Language and Deafness conference sponsored by Boys Town in Omaha, Nebraska in October, 1994. This two day trip was entirely supported by grant monies (travel, hotel, registration fees, meals). Students were extremely impressed with the quality of the conference presentations, their ability to meet presenters, teachers of the deaf, and Boys Town staff, and the opportunity to socialize with deaf education faculty.

***Show Me.** Three students and the one deaf education faculty attended the "Show Me" conference in Missouri in February, 1997. All attended the keynote presentations and two small group sessions after lunch. Everyone benefited from the numerous displays in the "vendor" exhibit hall and the contact with Missouri professionals and parents.

***Certified American Instructors of the Deaf.** Two students and the PI attended this national conference held in Minneapolis, MN in the summer of 1995. The PI presented at this conference with assistance from one of the doctoral students, Deborah Stryker. This three day conference included workshops, group discussions, lectures, and networking.

Accomplishments For Year 3 (1995-1996)

For the academic year of 1995-1996 the program was advertised in state, regional and national professional journals, newsletters, and at conferences. Vicki Scott secured employment within the state of Kansas as a teacher trainer. Another full-time applicant was accepted to the deaf leadership training program.

FALL 1995

An Afro-American applicant was accepted to the learning disabilities leadership training program. Funding was again offered to doctoral students in Special Education who did not have federal personnel support as long as they were mentored by a KU SPED faculty member and came highly recommended to the PI. Most of the students were studying learning disabilities to some degree in their program. Nine trainees received funding from this project, those trainees and their major field of study follows:

NAME	MAJOR
Beal, Halina	Learning Disabilities
Clutter, Sandy	Learning Disabilities
Lance, Denise	Special Education Technology
Otto, Kathy	Learning Disabilities
Shumate, Elaine	Learning Disabilities
Spurling, Bruce	Learning Disabilities
Southwick, Kenny	Learning Disabilities
Swartz, Laura	Learning Disabilities
Swenson, Nora	Learning Disabilities

SPRING 1996

Funding was again offered to doctoral students in Special Education who did not have federal personnel support as long as they were mentored by a KU SPED faculty member and came highly recommended to the PI. Most of the students were studying learning disabilities to some degree in their program. Nine trainees were awarded stipends, those students were:

Beal, Halina	Learning Disabilities
Clutter, Sandy	Learning Disabilities
Lance, Denise	Special Education Technology
Otto, Kathy	Learning Disabilities
Shumate, Elaine	Learning Disabilities
Spurling, Bruce	Learning Disabilities
Southwick, Kenny	Learning Disabilities

Swartz, Laura	Learning Disabilities
Swenson, Nora	Learning Disabilities

SUMMER 1996

A new full-time trainee in deaf education joined the leadership training program. Funding was again offered to doctoral students in Special Education who did not have federal personnel support as long as they were mentored by a KU SPED faculty member and came highly recommended to the PI. Most of the students were studying learning disabilities to some degree in their program. Nine trainees were awarded either stipends or a GTA*, those trainees were:

Beal, Halina	Learning Disabilities
Clutter, Sandy	Learning Disabilities
Griffith, Cindy	Deaf
Montgomery, Nancy*	Deaf
Shumate, Elaine	Learning Disabilities
Spurling, Bruce	Learning Disabilities
Southwick, Kenny	Learning Disabilities
Swartz, Laura	Learning Disabilities
Swenson, Nora	Learning Disabilities

Student Travel:

***Show Me.** One doctoral student attended the state of Missouri's teachers of the deaf's annual conference in Columbia, MO.

Accomplishments of Year 4 (1996-1997)

FALL 1996

A full-time trainee who was deaf and Hispanic was accepted to the deaf leadership training program. A full-time trainee was accepted to the learning disabilities leadership training program. Funding was again offered to doctoral students in Special Education who did not have federal personnel support as long as they were mentored by a KU SPED faculty member and came highly recommended to the PI. Most of the students were studying learning disabilities to some degree in their program. Twelve students received funding, four of whom were GTA's*. Those students are:

NAME	MAJOR
Beal, Halina	Learning Disabilities
Clutter, Sandy	Learning Disabilities
Garay, Suzette*	Deaf
Hollingsead, Candice*	Learning Disabilities/Administration
Lance, Denise	Special Education Technology
Montgomery, Nancy*	Deaf
Shumate, Elaine	Learning Disabilities
Spurling, Bruce	Learning Disabilities
Southwick, Kenny	Learning Disabilities
Stryker, Deborah*	Deaf/Learning Disabilities
Swartz, Laura	Learning Disabilities
Swenson, Nora	Learning Disabilities

SPRING 1997

Two of the full-time trainees completed their course work towards their Ph.D., Candice Hollingsead and Deborah Stryker. Ms. Hollingsead also successfully sat for her written and oral comprehensives as well as presented her dissertation research study to her committee. Two trainees in collaboration with the PI published an article in a deaf related journal, wile four other articles with doctoral students are under review. Funding was again offered to doctoral students in Special Education who did not have federal personnel support as long as they were mentored by a KU SPED faculty member and came highly recommended to the PI. Most of the students were studying learning disabilities to some degree in their program. Again, twelve students received funding from this project, they are as follows:

Beal, Halina	Learning Disabilities
Clutter, Sandy	Learning Disabilities
Garay, Suzette*	Deaf
Hollingsead, Candice*	Learning Disabilities/Administration
Montgomery, Nancy*	Deaf
Lance, Denise	Special Education Technology
Shumate, Elaine	Learning Disabilities
Spurling, Bruce	Learning Disabilities
Southwick, Kenny	Learning Disabilities
Stryker, Deborah*	Deaf/Learning Disabilities
Swartz, Laura	Learning Disabilities
Swenson, Nora	Learning Disabilities

SUMMER 1997

Candice Hollingsead received her Doctorate of Philosophy in Special Education within Learning Disabilities and Administration with an emphasis in Statistics. Ms. Hollingsead has also secured a position at Mankato State University in Minnesota. She will be developing and implementing a Learning Disabilities department within their medical institution.

Six students were awarded stipends or GTA* funding during the Summer 1997 semester. They are as follows:

Garay, Suzette*	Deaf
Griffith, Cindy	Deaf
Hollingsead, Candice*	Learning Disabilities/Administration
Montgomery, Nancy*	Deaf
O'Brien, Dawn	Deaf
Stryker, Deborah	Deaf/Learning Disabilities

Student Activities

At the beginning of the Fall, 1996 semester, trainees, Dr. Barbara Luetke-Stahlman (PI), and Dr. F. Hudson met to formulate doctoral program plans. These plans were developed by considering previous educational and vocational experiences, current course work, and available options to supplement their background in areas where they had less experience.

Full-time students under this project assisted within the Deaf Education department or the Learning Disabilities department. Tasks included: conducting library searches, coding data, gathering research, proof reading drafts of manuscripts and reports, synthesizing data gathered from field research, and assisting in the professors preparation for classes, etc.

Student Travel:

***Issues in Language and Deafness.** Three doctoral students and one deaf education faculty attended the Issues in Language and Deafness conference sponsored by Boy's Town in Nebraska City, NE in October, 1996. This two day trip was entirely supported by the leadership grant training monies (travel, hotel, registration fees, meals). Students were extremely impressed with the quality of the conference presentations, their ability to meet presenters, teachers of the deaf, and Boys Town staff, and the opportunity to socialize with deaf education faculty.

***Show Me.** Three full-time doctoral students and one faculty attended the "Show Me" conference in Missouri in February, 1996. All attended the keynote presentations and three discussion group sessions after lunch. Everyone benefited from the numerous displays in the "vendor" exhibit hall and the contact with Missouri professionals and parents.

***Kansas Instructors of the Deaf.** Three doctoral students attended this conference in the fall and then again in the spring. Both deaf education faculty attended the fall conference.

***Association of Speech and Hearing Association.** One doctoral student attended and presented a poster at this national conference in Seattle, WA.

***American College Educators of the Deaf/Hard of Hearing.** Three full-time doctoral students and one of the deaf education faculty attended this national conference held in Santa Fe, NM. Extremely helpful contacts were made with the various teacher educators in attendance. The discussions, keynote speakers, workshops, and poster sessions were very beneficial.

***Certified American Instructors of the Deaf.** Two full-time doctoral students and one faculty attended this conference held in Hartford, CN. The deaf education faculty person in attendance presented in coordination with a faculty person from the Kansas School for the Deaf.

Current Employment of Students Who Received Support

The deaf and learning disabilities leadership training programs are stronger than ever. To date there have been two Ph.D. graduates specifically from the leadership training grant. Both graduates are gainfully employed at universities; Vicki Scott is at Emporia State University in Kansas and Candice Hollingsead is at Mankato State University in Minnesota. One trainee has finished all of her research course work and is working solely on her dissertation. Eight students involved in the leadership training grant will be taking their written and oral comprehensives all in anticipation of their May, 1998 graduation from the department of Special Education.

Significant Accomplishments

The most significant accomplishment would be the doctoral leadership program's national reputation. Since the beginning of this leadership program the grant has consistently been advertised through professional journals, at local and national conferences across the United States, and praised locally within the departments of Special Education (rated the #1 special education department in universities across the US) and Hearing and Speech. With such a good reputation the deaf education program has four additional teachers interested in applying in the near future.

Problems/Solutions

Communication difficulties occurred between the two departments of Special Education and Hearing and Speech. The deaf education program is currently investigating relocation to the department of Special Education, in an attempt to find a solution.

Another problem involves the three year project status and the solution, it is hoped, will be resolved through the resubmission of this grant in the next competition. Considering the

advertising and networking this grant has received, we are excited re-submit, because it is now well-known.

The loss of the Project Coordinator was also a problem. The students could have used more attention and guidance. The logical solution to this problem would be the hiring of additional staff.

Changes in Key Staff

Dr. Cherie Davis left the program as PC. In Year 3 and 4 Dr. B. Luetke-Stahlman, the PI, performed the duties of both the PI and the PC.

Cooperative Relationships

A functional program of personnel preparation cannot stand alone. It is dependent upon resources within and outside the parent agency. This is as it should be because any other configuration would lead to program isolation from the needs identified as priority for services. The following narrative describes examples of how the program cooperated and coordinated efforts with other agencies.

The doctoral program depended upon an integrated process of enabling students to acquire appropriate knowledge and skills relevant to professional role choices. An integration process required human and other resources beyond the department in which a program was based. For example, all trainees completed experiences in special education and hearing and speech. Students selected from departments within the University, such as psychology, educational psychology research, curriculum and instruction, etc., for their minor area of study. Their minor area of study must be from outside the Department of Special Education.

Other Agencies

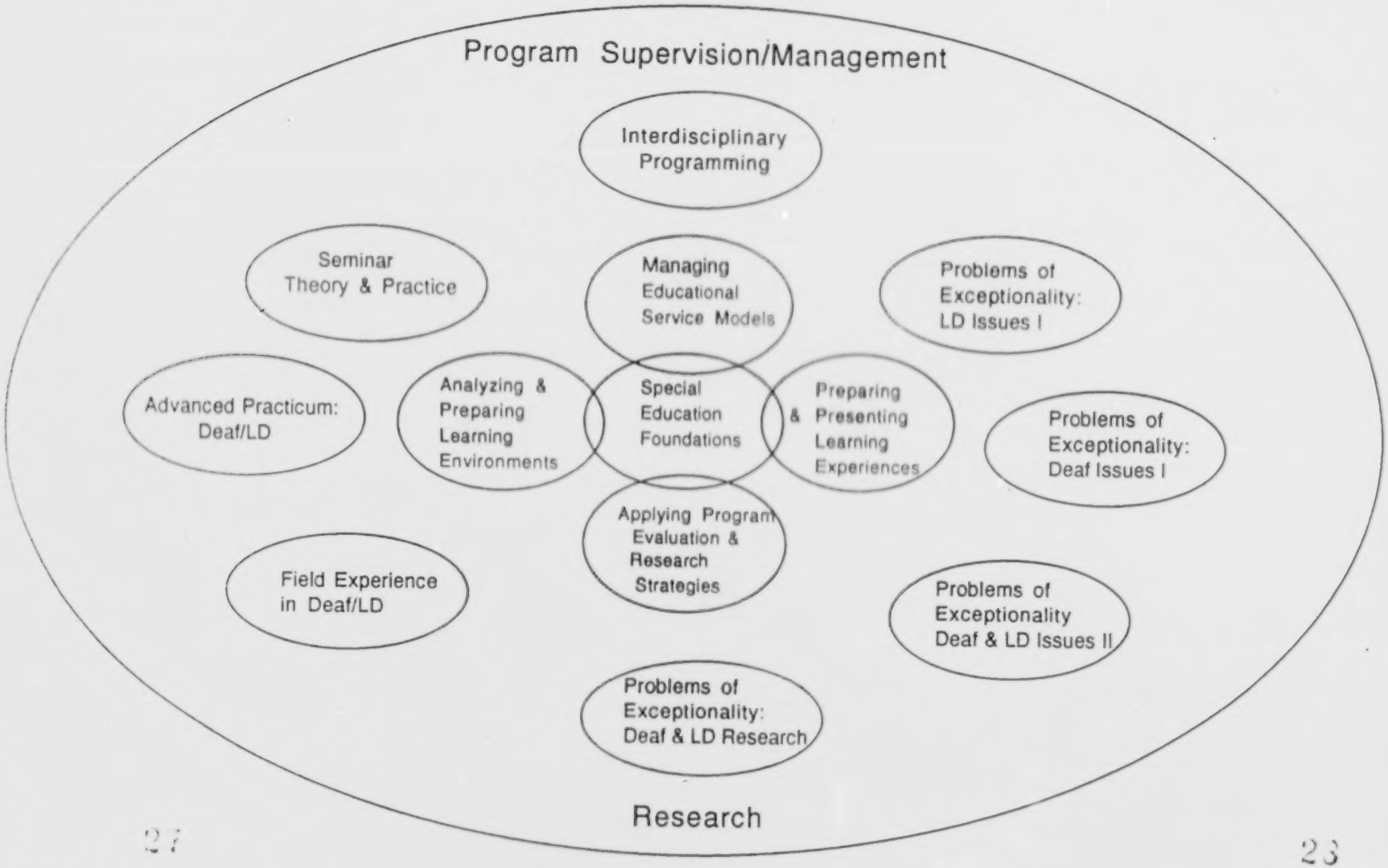
The Deaf Education faculty members maintained contact with school districts and other agencies in the immediate geographical area. This provided an efficient way to determine inservice and program development needs; it offered effective procedures for meeting identified needs, and it enhanced communication among the various agencies. Faculty members also work closely with the Kansas School for the Deaf in providing inservice, consultation, committee work, and joint research projects.

School districts and agencies were of course, vital to the operation of a personnel preparation program. In addition to the expertise of agency staff members that was used in an advisory capacity, that expertise was also needed to support practicum experiences that students complete as a part of their course of study.

APPENDIX A

Program Design

PROGRAM DESIGN


Program Supervision/Management
Interdisciplinary Programming
Seminar Theory & Practice
Managing Educational Service Models
Problems of Exceptionality: LD Issues I
Advanced Practicum: Deaf/LD
Analyzing & Preparing Learning Environments
Special Education Foundations
Preparing & Presenting Learning Experiences
Problems of Exceptionality: Deaf Issues I
Applying Program Evaluation & Research Strategies
Field Experience in Deaf/LD
Problems of Exceptionality Deaf & LD Issues II
Problems of Exceptionality: Deaf & LD Research
Research

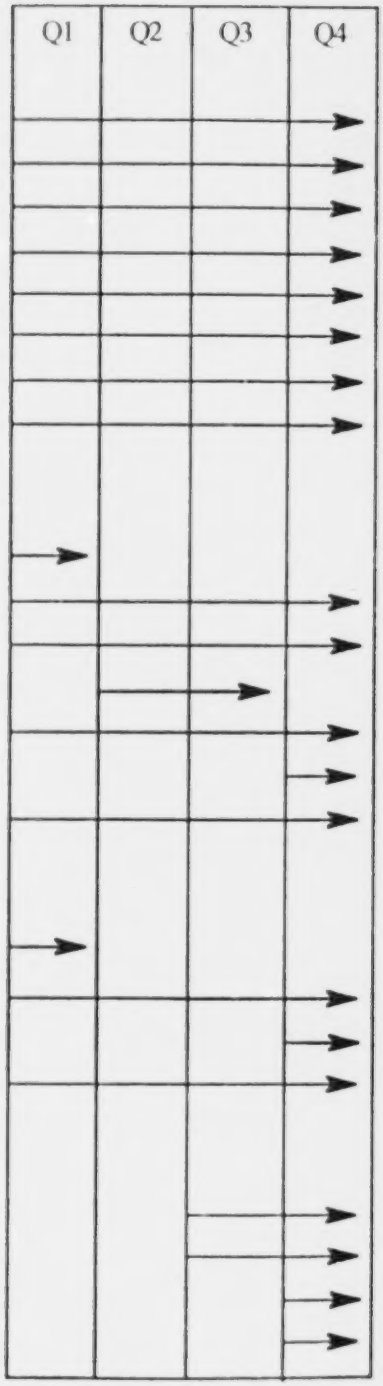
APPENDIX B

Performance Objectives

Administration of Procedural and Academic Performance Objectives for Each Participant

Performance Objectives	Summer	Year 1 Fall	Year 1 Spring	Year 2 Fall	Year 2 Spring	Year 3 Fall	Year 3 Spring
Procedural							
Applicants Recruited	X						
Participants Admitted		X					
Advisory Committee Formed			X				
Program of Study Filed				X			
Residency Plan Filed					X		
Research-skills Document Filed						X	
Comprehensive Examination Held							X
Dissertation Proposal Approved							X
Dissertation Defended & Approved							X
Dissertation Filed							X
Academic							
Generic Competencies Mastered		X	- - - - -	- - - - -	X		
DEAF/LD Competencies Mastered		X	- - - - -	- - - - -	- - - - -	X	
Role-Specific Competencies Mastered			X	- - - - -	- - - - -	- - - - -	X

Timeline for 1 Year



1.0 Hire and Recruit
- 1.1 Advertise (national, regional, and state levels)
- 1.2 Advertise in rural and multi-ethnic areas
- 1.3 Utilize Public Relations Department
- 1.4 Advertise at conferences
- 1.5 Secondary and Deaf recruitment
- 1.6 Contacting of schools
- 1.7 Utilize technology to recruit and advise
- 1.8 Process applications

2.0 Begin to train (assuming notification is on or before August 1, 1993)
- 2.1 Needs Assessment
- 2.2 Initial and on-going planning
- 2.3 Initial and on-going advising
- 2.4 Develop special courses/modules
- 2.5 Professional training
- 2.6 Arrange practicum and special observations
- 2.7 Arrange special presentations

3.0 Manage and Evaluate
- 3.1 Establish PAC
- 3.2 Utilize evaluation tools
- 3.3 Make adjustments
- 3.4 Review fiscal expenditures

4.0 Dissemination
- 4.1 Develop resource materials
- 4.2 Journal articles
- 4.3 Presentations
- 4.4 Interim and Final Reports

APPENDIX C

Management Plan

MANAGEMENT PLAN
RESOURCES FLOW CHART

ACTION	PERSON RESPONSIBLE			
	Director	Program Associate	Project Coordinator	Project Secretary
1. Prepare and disseminate recruitment materials.	30	30	30	10
2. Review applications, select and appoint trainees.	33	33	33	
3. Schedule faculty, courses, classrooms, and facilities.	30	30	10	30
4. Arrange liason with campus and off-campus practicum and research sites.	30		60	10
5. Order and maintain equipment and supplies.			50	50
6. Assess effectiveness of utilization of resources	20	20	60	
7. Monitor progress of trainees through performance objects.	33	33	33	
8. Evaluate program at end of year.	33	33	33	

APPENDIX D

Evaluation Plan

EVALUATION PLAN

Deaf/LD Doctoral Training Grant

1.0 Admissions Process
- 1.1 Application forms & brochures for dissemination
- 1.2 Admissions standards
- 1.3 Review & recommendation by area faculty
- 1.4 Review & recommendation by Graduate School of Education and University
- 1.5 Applicants from under represented groups provided continuing support during review
- 1.6 Admission Officer response to inquiries & requests for application
- 1.7 Award stipends in accordance with stated criteria
- 1.8 Award stipends with attention to under represented groups

2.0 Program Resources and Usage
- 2.1 Adequate state funding
- 2.2 Supportive other funding resources
- 2.3 Qualified graduate faculty
- 2.4 Quantity graduate faculty
- 2.5 Adequate faculty and student work place
- 2.6 Adequate lecture/demonstration space
- 2.7 Access to Clinical Classroom
- 2.8 Access to Clinical population
- 2.9 Access to Instructional Materials Lab
- 2.10 Access to Assessment Tools Lab
- 2.11 Access to Clinical Testing Rooms
- 2.12 Access to Media/Video, etc.
- 2.13 External Practicum (Role Specific) Operational
- 2.14 External Practicum (Integrated Classroom/Regular Education/Collaboration) Operational
- 2.15 Access to Research Staff and placements
- 2.16 Operational Communications with SEA & LEA
- 2.17 Course of Study and Experiences Developed

3.0 Acquisition of Knowledge and Skills
- 3.1 Program Requirements Checklist

3.1a PROCEDURAL
- *Advisory committee formed
- *Program plan filed
- *Residency plan filed
- *Research-skills document filed
- *Comprehensive exam held
- *Dissertation proposal approved

*Dissertation defended and approved
*Dissertation filed

3.1b ACADEMIC

(1) Generic Competencies
*SPED foundations
*Applying program/eval/research strategies
*Preparing/presenting learning experiences
*Managing educational service models
*Analyzing/preparing learning environments

(2) DEAF/LD Competencies

(3) Role Specific Competencies
*Teacher education
*Research
*Program supervision management
*Clinical practice

3.2 Student Self-Evaluation
- 3.2a Form advisory committee
- 3.2b File program of study
- 3.2c File residency plan
- 3.2d Complete college teaching
- 3.2e Complete research skills
- 3.2f Complete comprehensive exam
- 3.2g Complete dissertation proposal
- 3.2h Dissertation approved
- 3.2i Final oral exam
- 3.2j File dissertation copies
- 3.2k Course of study three years
- 3.2l Graduation

4.0 Completion of Doctoral Requirements
- 4.1 Procedural
- 4.2 Academic

5.0 Student Self-Evaluation
- 5.1 Summative Evaluation I

6.0 Student Outcomes/Goals and Roles Consistency
- 6.1 Interview
- 6.2 Mail

7.0 Follow-up Student Self-Evaluation
- 7.1 Summative Evaluation II

8.0 Impact Evaluation
- 8.1 Agency
- 8.2 Student

Evaluation Plan Flow Chart

Questions Regarding Program Operation	Monitoring Format				
	Instrument	Completed By	Sent To/Used By	When	Data Usage
1. Did the admission process produce qualified participants?	Admission Checklist	Director and Program Associate Standards Committee Admissions Officer	Director and Program Assoc. Standards Committee	August January May	Make process more efficient by identifying strengths and weaknesses.
2. Were program resources committed at the start of each instructional term and were the program resources used as intended?	Resource Availability and Usage Checklist	Management Team Faculty Practica Sites	Director and Program Assoc.	1st month of project and monthly thereafter	Correct discrepancy between what exists and what is intended in Design
3. Are participants acquiring knowledge and skills according to planned schedule?	Program Requirements Checklist Student Self Evaluation	Student Major Advisor Student	Standards Committee	December/May/August	Identify problems and provide support as needed to students. Modify program if needed.
4. Have students satisfactorily completed all requirements for the doctoral degree?	Program Requirement Checklist	Student Major Advisor Graduate Division	Standards Committee Director Program Assoc.	Prior to Graduation	Confirm that students will graduate on schedule.
5. Did program graduates complete Summative Evaluation I?	Summative Evaluation I	Program Graduate	Standards Committee Director and Program Assoc. Graduate Div.	After Graduation	Modify activities and resources if indicated.

Evaluation Plan Flow Chart

Questions Regarding Performance Objectives	Monitoring Format				
	Instrument	Completed By	Sent To/Used By	When	Data Usage
Did program graduates accept positions consistent with chosen professional goals and roles?	Check by Interview or mail	Program Graduate	Director Program Associate Standards Committee	After Graduation	If discrepancy exists, determine reason and prepare option for corrective action.
Did program graduates complete Summative Evaluation II?	Summative Evaluation II	Program Graduate	Director Program Associate Standards Committee	Annually to graduates who graduated two three years previously.	Identify deficiencies and strengths. Take correct action.
What impact did program graduates have on the agencies in which they are employed, and what direct or indirect contribution to the education of children and youth with deafness and learning disabilities?	Impact Evaluation	Agency Representative	Director Program Associate Standards Committee	Yearly for sample of program graduates after a three to ten years period.	Use information if indicated, to modify design of how the program uses resources, activities and goal/purpose

Continued

Some Thoughts on Models of Inclusion

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The concept of full inclusion is sweeping the country. Originally intended for children with mild handicaps such as those students who have learning disabilities, behavior disabilities, and mild mental retardation, full inclusion also is being promoted by educators and parents of deaf and hard of hearing children. Although definitions vary, inclusion is generally described as every child being educated in his or her home school in classrooms with same-aged peers. This practice has created a need for models of instruction. Seven models of inclusion currently in use in the United States are defined and described below.

Residential Programming

Some parents and deaf educators believe that residential school programming is the most inclusive for deaf children. At schools for the deaf, deaf children have access to administrators, teachers, and classmates with whom they can communicate freely. They have access to American Sign Language (ASL), and can participate completely in school clubs, after-school sports, and a wide range of social activities. Residential school programs are available in every state and should be considered as an option by teams discussing programming for deaf children who would benefit from the opportunity to socialize with a critical mass or large number of deaf adults and peers.

Residential/Public School Split

Educational teams might also consider public school programs in their communities for deaf children who are primarily educated at residential schools. Some children attend half-day at one location and half-day at another, whereas others might only take one or two specific classes at the public school.

Public School Programming with a Residential Component

Model number three is that of a deaf child attending a public school program and being transported to a residential school program for after-school activities, dinner, and a possible night or two a week of sleeping over at the residential school. This allows deaf children an opportunity for contact with ASL and Deaf adults that may not be possible in their public school program.

Contained Classroom Programming

Deaf children educated in contained classrooms might receive instruction from a teacher of the deaf in a classroom of deaf peers located in a public school building. They might eat lunch, play at recess, or attend art or physical education courses with their hearing peers in the same building. A derivation of this model may be provided for the child who is capable of attending one or more academic classes with hearing peers. A sufficient number of educational interpreters are needed to interpret in classrooms of hearing peers to make this option a reality for deaf children. However, integration into classes and school activities should be discussed in terms of student need and not with regard to the availability of interpreters.

Class Within a Class

In this option teachers of the deaf team teach with regular education teachers to allow deaf children experience in the regular education classroom. If only one or two deaf children are enrolled in a particular classroom, it may be that other hearing students in the classroom can join small groups of instruction so that larger groups of children can be taught by the teacher of the deaf in the regular classroom. This model might also be a viable one for children who have received cochlear implants and need to receive more of their instruction via simultaneous communication (rather than through an educational interpreter).

Integration Plus Resource

Perhaps a deaf child is integrated into the regular education classroom for the majority of the school day but receives resource assistance. The teacher of the deaf might see the child for some portion of the school day not to exceed the amount of time in which the child is integrated into the regular education classroom. A derivation of this model would be children who are integrated for the majority of the school day and whose teacher of the deaf serves as a consultant to the regular education teacher.

Integration With Monitoring

In this option deaf children are integrated into regular education classrooms and may only receive the services of that audiologist or speech and language pathologist a minimal number of times throughout the year. This model allows the deaf child to be tracked should new audiograms or language goals be warranted.

Summary

If the goal of integrating deaf and hard of hearing children into regular education classrooms is full inclusion, then each member of the educational team has responsibilities that should be discussed. These are listed below.

Deaf and Hard of Hearing Students

- Deaf students need to be taught to be assertive about stating their needs.
- They may need to be taught or to practice how to enter a conversation, comment, question other students, engage in small talk, learn how to receive a compliment, give a compliment, learn how to state a problem without tattling, and so forth.

Hearing Students

- Hearing students may need to be taught how to appropriately get the attention of a deaf peer, how to interrupt or comment in a signed conversation, and so forth.
- They may need to meet adult deaf people and have the opportunity to talk with them and ask questions.
- They may need to see and handle the deaf child's assistive listening equipment to demystify it.
- They may need to learn to sign and have access to regularly scheduled sign classes. Perhaps their grade or school could host a signing bee, much like an old-fashioned spelling bee.

Regular Education Teachers

- Regular education teachers need to learn to sign at least basic words and phrases.
- They can group deaf and hearing students as partners in cooperative learning tasks.
- They can set goals and plan regular activities to facilitate social inclusion of all students.
- They can take data (or have it taken) of exactly who and how often hearing peers are conversing with deaf peers and vice versa.

Teachers of the Deaf and Interpreters

- Teachers of the deaf and interpreters can suggest specific books about deafness that can be added to the library.

Administrators

- Administrators can make sign classes available to all teachers, students, and families whose children attend school.
- They can ensure that social goals are included on IEPs.
- They can provide counseling services for deaf children.
- They can group children who sign in classes with other deaf children for several years (moving along together through school) to provide consistency of contact.
- They can hire teachers and paraprofessionals who are deaf themselves.
- They can organize an advisory council that meets regularly and includes deaf adults.

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Creating the "Write" Environment for Young Deaf Children

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Abstract

Becoming a mature writer is a developmental process that begins early and grows from print awareness to fluency of production. Young children who are deaf need a classroom environment that acknowledges and supports the initial basic stages. A developmental scope and sequence list adapted from Poplin (1983) provides guidelines to the writing process for teachers of young children. Understanding the writing process and providing the right environment is a critical responsibility for early childhood teachers to embrace.

Résumé

Devenir écrivain mûr est un processus de développement qui prend racine tôt dès la prise de conscience de l'écrit et qui croît jusqu'à la production écrite courante. Les jeunes enfants qui sont sourds et sourdes requièrent un environnement scolaire qui reconnaît et qui valorise ces phases de base initiales. Une liste de la séquence développementale de l'étendu adapté de Poplin (1983) nous donne les grandes lignes du processus d'écriture pour les éducateurs et les éducatrices des jeunes enfants. C'est une responsabilité critique qu'ont ceux-là et à celles-là et envers les enfants préscolaires de comprendre le processus de l'écriture et de lui créer un environnement propice à son développement.

Becoming a competent language user is an outcome that schools have been entrusted to pass onto children. Language teaching including reading, writing, and spelling have formed the cornerstone of the elementary school curriculum's history. How those skills have been taught to children, however, has not remained constant. Changes of content, method, and philosophy have been the norm as opposed to the exception in language arts curriculums.

Opinions on the best way to develop literacy have changed considerably in the past few decades. In the 1960s a shift occurred from focusing on a maturation theory of learning to read to a nurturing philosophy of reading readiness. This newfound interest in young kindergarten children's preparation for reading, and therefore learning, coincided with the launching of Sputnik and the dawning of the space age. This event caused a questioning in North America as to the adequacy of its educational system. Inherent in this perspective was the assumption that oral language was a prerequisite to reading and writing (Williams, 1994). Relying on contemporary studies, educators called for a more deliberate teaching of

oral language to young children almost to the exclusion of reading and writing skills. In the early 1970s views on early literacy development experienced a radical shift in philosophy. Clay (1972, 1975) coined the term *emergent literacy* to describe the experiences of preschool children's development in all forms of communication. This came at a time when many educators were moving from a behaviorist to a cognitivist viewpoint on learning and during a renewed interest in the early years of life as a critical period in human development. These changes in how society viewed children have directly affected research and practice today. In the past 10 years a method for teaching writing has emerged from the research of Calkins (1983), Graves (1983), and others. It includes principles in direct contrast to traditionally held beliefs about how children learn. Children are no longer viewed as sponges soaking up teacher-directed lessons, but as actively constructing knowledge about literacy. The traditional viewpoint toward drill-like repetitive practice as a means to master skills has been replaced with terms like *writing for authentic purposes*.

Research on Children's Writing

In the field of writing, Graves (1983) has put a name and method to this new child-centered philosophy. The Process Writing approach focuses on the process children go through from the initial planning stage to the finished product. It involves stages that everyone from emergent writers to competent written communicators experience. Past research clearly describes the difficulties children who are deaf have with the process involved in writing. The writing of students with a hearing loss falls drastically behind that of their hearing peers and demonstrates less creativity in the use of diverse vocabulary and function words (Webster & Wood, 1989). Several key studies suggest that the Process Writing approach may, over a long term, improve the writing of children with a hearing loss (Harrison, Simpson, & Stuart, 1991; Kluwin & Kelly, 1992).

During the 1980s, while research was being developed on using the Process Writing approach with elementary aged students, a similar vein of research was documented on the knowledge and experiences that younger children have with written language. A strong research focus was placed on the preschool and primary grade child's experiences with written language acquisition. Some of this research focused primarily on children who are deaf. Several researchers suggested that written language might serve as a link for children with a hearing loss to the development of other forms of communication (Brannon & Livingston, 1986; Maxwell, 1985). Ewoldt and Saulnier (1991) found that many children who are deaf encode print directly to meaning without going through the process of auditory decoding. The importance young children place on parents for positive reinforcement of early writing behaviors was investigated by Burrows (1994). Many researchers chose to study the developmental se-

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quence young children experience in becoming writers (Clay, 1975; Harste, Burke, & Woodward, 1984).

Developmental Stages in Writing

There is much information written about the emergent speech of children. Stages of development have been described in great detail. These include turn-taking, babbling, one-word utterances, and combined speech. Luetke-Stahlman and Luckner (1991) described the scale Brown and colleagues created to describe children's progression along the continuum of speech development. It is now believed that there is a similar continuum of development for children's emergent writing skills. Even with the substantial base of research on this topic, many educators are unaware of the stages of development in writing and the role they play in early literacy. Writing acquisition is a gradually emerging process that begins much earlier than previously thought. A review of research by Bakst and Essa (1990) later cited in Burrows (1994) concluded that there are 11 steps in the process of written language learning. More than half of these steps happen during the years before a child enters school. Poplin (1983) confirmed these findings with his developmental scope and sequence list of writing behaviors (see Appendix A).

According to Poplin's (1983) developmental sequence there are five stages of early writing behaviors that occur before a child begins to write letters and words independently. For many children, both hearing and deaf, these initial five steps occur naturally in the home or preschool. But for a good number of deaf children they do not occur. Unfortunately, in many classrooms of children who are deaf, educators have postponed opportunities for writing instruction until the children have attained some external measure of language competence. The focus is still on writing as skill-driven rather than a process of development that must begin young (Williams, 1994). Teachers of early childhood classrooms for the deaf must accept the notion that language acquisition and written language development occur simultaneously and "mutually reinforce one another" (Teale & Sulzby, 1989, p. 4). The developmental scope and sequence as designed by Poplin provides for teachers of the deaf a guideline to follow in creating a classroom environment and program that will support and encourage writing behaviors.

Stage One: Observing Writing

The first step along the continuum is to observe others involved in written language activities. All children, whether hearing and deaf, will have observed the adults in their life writing. The critical difference may be that hearing children have internalized some other purposes for writing by talking about it. Most mothers will explain to their preschooler about the grocery list, or the letter to Grandma. As preschoolers, many children who are deaf have only recently been diagnosed and hearing parents often lack

the signing skills for meaningful interactions. One of the first steps to becoming a writer is to recognize the many purposes that writing serves. Teachers of young children with hearing loss must make a conscious effort to demonstrate and explain various writing tasks. As children's communication skills develop this could be done in a direct manner or as situations occur in the classroom. Writing notes to parents, sending roll call to the office, and writing on the board allow opportunities to discuss the usefulness of writing.

Stage Two: Scribbling and Drawing

The second developmental stage of writing is children's initial interest in scribbling and drawing. There is a great deal of pressure on teachers to dismiss the role that drawing should play in the classroom. Many educators believe that drawing is for art class and is simply an enjoyable activity that children engage in to avoid doing real work. This viewpoint is inadequate. "When a student attempts to convey a message with pictures you should view them as transitions to words. You should attend to the function and meaning of what your students are trying to express through their work" (Luetke-Stahlman & Luckner, 1991, p. 302). Early efforts at scribbling and drawing are the first examples of young children trying to express meaning on paper for others to see. These efforts must be valued and given time to develop.

In a study by Burrows (1994) the words that nonprofessional adults choose to use to describe the early writing and drawing of children were explored. Burrows claimed that the reactions adults give to children's graphic products are highly influential in promoting a motivating written language environment. Children's growth as writers depends on their previous success at conveying meaning to others. Results indicate that mothers as opposed to others responded more often with praise for the child's writing. A characteristic of the supportive responses was that the word *writing* was used in a manner that communicated to the child that they were participants in a valued cultural activity. A consequence to deafness, according to Webster and Wood (1989), is that children who are deaf are early put in the position of being passive assimilators of language. Teachers and parents must encourage the active role of sharing meaning through drawing and eventually writing.

If scribbling and drawing are to be accepted and encouraged as steps to future literacy, certain environmental conditions must be incorporated into the classroom. Children will need access to paper and many different writing instruments. Motivating children to use writing materials can be done by introducing unique ways of drawing and writing into the classroom. Chalkboards and chalk, markers, crayons, paint and water are all variations on the traditional pencil. Giving children to opportunity to draw and write in big spaces like on chart paper or the playground sidewalk is a welcome change for children who struggle with fine motor

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skills. Children's work must be displayed and praised for the message it portrays. It should be shared with classmates, teachers, and parents. Having access to paper and interesting writing instruments is useless unless time is allotted in the school day for exploration with these materials. Allowing children time for drawing if their work is finished is not sending the message that drawing and scribbling is valued in the classroom. This time must be considered part of the curriculum and not a filler of extra time.

Stage Three: Communicating Writing to Others

The natural progression from drawing and scribbling, in an environment that values this stage and is rich in print, will be the child's desire to communicate about his or her work and a recognition of the difference between drawing and print. The main purpose in writing is to share with the reader opinions, ideas, and thoughts on a topic. For children who are deaf a more conscious effort must be made in the classroom to encourage conversation and discussions on a wide range of topics. For many children who have a hearing loss, the signing environment at school is the first time they have had an adult with advanced signing skills with whom they can begin to build a common language. Optimizing the language environment in classrooms that have children who are deaf is important. Luetke-Stahlman and Luckner (1991) dedicate a section in their book *Effectively Educating Students with Hearing Impairments* to ways that this can be done in the classroom. Some of the elements they include are (a) a comprehensive and complete language model must be used, (b) students must be interested and motivated, (c) feedback is important, and (d) a conversational approach is ideal. They conclude that an environment rich in hands-on experiences, peer interaction, and adult-to-child conversations is critical to the development of ideas and thoughts in the child. Webster (1989) adds to this, stating, "the starting point for really creative writing must be that the child has something to express" (p. 86).

Classrooms can be places where experiences meaningful to the child are happening every day. Teachers should ask themselves, What's going to happen today that will make the children excited about being in school? Class pets offer children hands-on learning experiences. They involve care and attention and demand observation. Field trips should occur in early childhood classrooms on a regular basis. All field trips do not have to be elaborate, planned affairs. Going for a walk around the school to collect snowflakes is novel and holds great potential for writing. Having a penpal from another classroom or even another part of the country is motivating for children of all ages. Either as a class or individuals, when someone writes to you, you want to reply. It is important to remember that all forms of writing have a role to play in developing competence. Play centers, such as pretend restaurants and banks with all the appropriate props can encourage different kinds of writing. Children will write to sustain the play,

often without realizing that is what they are doing. Offering children play centers also benefits their growing base of knowledge about daily activities like going to the bank, post office, and restaurants with family, which they may not have fully understood before.

Stage Four: Requesting Assistance in Writing

Joint composition between adult and child is as important to early writing as the active starting of books is to reading (Webster & Wood, 1989). The fourth step in the developmental sequence describes the stage that all young writers engage in as their confidence in writing slowly develops. By the time young children begin requesting that adults write their thoughts down for them, we know a great deal about what these children already know about writing. They are aware that there is a difference between print and nonprint. They realize that the purpose of writing is to put the words we say or sign onto paper. Finally, these emerging writers recognize that adults know this special code of language. This last bit of knowledge is critical for teachers to recognize and plan for. If students are to succeed at the writing process, they must be given opportunities to try to succeed on their own. If adults always agree to do their writing for them, an attitude of inadequacy will develop. This is not to say that adults should never write for children, this does play a role in the continuum of writing skill. But by the time students reach this stage of learning to write, the teacher must be learning to walk the fine line between encouraging growth and impeding it.

Teachers must provide an environment where taking risks is acceptable and rewarded. "Just as in spoken language contexts, writing has more relevance when it is the child who takes the initiative and feels an inner pressure to set something in print. Good teachers create situations which demand a genuine urgency to write something down" (Webster, 1985, p. 85). Teachers can encourage this stage by writing with children every day. Using large chart paper to write what each child says on a topic is a beneficial process. When children see their own names in a sentence they will undoubtedly want to know what the sentence says. This process can be used in every subject area. Predictions about science experiments, possible answers to math questions, or what each child likes to eat for lunch are all daily questions that could be written down and kept in the classroom for children to read and copy from.

Stage Five: Copying Writing

Stage five in the developmental sequence is often the first point when adults will begin to see children printing recognizable letters and words. Again, as in stage two, many parents and teachers do not recognize the importance of allowing children the time to progress naturally through this stage. Many primary teachers allow their classes journal time but then become frustrated and give up when it appears that all the children are

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doing is copying words from around the classroom into their books. "They are not doing any writing" is the common complaint. For all children this stage allows much needed practice time with the physical component of writing as well as time to build confidence in one's ability to share meaning with others. Children who are deaf have not always had positive experiences in making other people understand them. It is crucial for teachers to encourage the attitude that writing is a powerful mode of communicating with the world.

An important environmental condition for this stage and all the writing stages is a classroom that is rich in print. All elementary classrooms have, to some extent, print samples in the form of lists, class notes, and books. Most teachers include common school examples of print without much thought. But for classrooms of young children, especially children with a hearing loss, this must be done in a much more methodical and all-encompassing manner. A classroom rich in print will include labels for classroom objects. There will be a variety of written products such as books, newspapers, comics, recipes, lists, letters, games, and play props. In a print-rich environment teachers train themselves to use the children's knowledge of print and how it works in everything they do. During the copying stage of development children actively construct knowledge about print. They need many different examples of print to compare with and contrast to their own experiences. During this stage it is important to separate writing opportunities with printing practice. Children will not take risks and experiment with writing if they are expected always to spell correctly and form letters perfectly. There is a time and place for skill in printing and spelling, and as children's confidence in writing grows the distinction between the two will not need to be so clearly separated. There is much a teacher can do to help a child improve the mechanics of writing if the child will write.

Stage Six: Beginning to Write Independently

The sixth stage in writing acquisition according to Poplin's (1983) scope and sequence is when children begin to create writing from their own thoughts. What an exciting experience this is for children and teachers! Unfortunately, most primary language arts curriculum guides sequence this stage of learning for students by breaking down each skill into "manageable" parts. Despite current research there remains the belief that young children need extensive practice in forming letters, phonics, and sight word lists before they will be able to write independently. It is common to find classrooms of 6- and 7-year-olds being given sentence forms to complete, the most famous being "I like ..."

The environment in the classroom of a teacher with an understanding of the writing process will look quite different. The students will not usually need to be given topics to write about. They will have much to say on their own about classroom experiences. Invented spelling will be the

acceptable method of learning in these classrooms. Students will use all of the print in the environment to assist them in getting their thoughts on paper. Copying will be encouraged as a strategy to keep the writing going. Children in a writing classroom will consider themselves writers. They will have their work published by a fictional classroom company and then shared with others. Editing will be a process not based solely on teacher corrections, but as a cooperative effort between the writer, the audience, and the teacher-editor. It will appear to be a time of rapid growth.

Summary

Poplin's (1983) stages and other similar models describe for teachers the typical experiences that children will have on the path to becoming writers. Each step along the continuum will affect the whole experience of literacy. "While the acquisition of writing tends to progress in an orderly fashion from scribbling to a well developed system, no single preordained sequence of steps must be followed in acquiring literacy" (Conway, 1985, p. 91). A child will not move effortlessly from one stage to the next. There will continue to be traces of all the previous learning as children's confidence with written language grows. The role of the early childhood teacher is critical in determining where a child is in his or her learning and planning for the continued growth toward writing fluency. Webster (1989) strongly suggests the need for teachers to think critically about their objectives and methods in their classroom. Webster encourages teachers to take on a role of "active researcher, hypothesis-tester and creative problem solver in much the same way as has been suggested for the hearing-impaired child" (p. 91).

Along with a talented teacher, the environment of the early childhood classroom is critical in promoting the future success of children with the writing process. An environment that promotes writing draws attention to the purpose of writing, makes a variety of materials accessible, allows adequate time for exploration, praises efforts to communicate, and is rich in print resources. For whatever reasons, teachers who deny young children who are deaf the opportunities to engage in meaningful, daily, child-directed writing events may inadvertently impede the development of communication. "Young children should be invited to read and to write on the first day of school and every day thereafter" (Williams, 1994, p. 151).

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Appendix A*

Exhibit 12.4 (adapted from Poplin, 1983) Developmental scope-and-sequence list to guide assessment and intervention of writing

1. Students observe others involved in written language activities.
2. Students begin to scribble and draw.
3. Students begin to differentiate drawing from writing and begin to "read" their scribbles to others.
4. Students request that adults write words or phrases for them.
5. Students begin to copy letters, words, or phrases.
6. Students attempt to write letters, words, or phrases on their own.
7. Students, using invented spellings, dictate more lengthy messages and stories.
8. Students, using invented spellings, continue to practice writing messages and stories.
9. Students continue to increase frequency and fluency of production and complexity of syntactic structures.
   a. Simple sentences are joined by connectors such as *and*, as well as present- and past-tense verb forms.
   b. Adjectives, adverbs, prepositional phrases, and conjunctions such as *because* and *although* are introduced.
   c. Grammatical transformations are used to form *who* or *what* questions, conjunctions, indirect objects, and comparatives.
   d. Use of infinitives, gerunds, and participle structures are introduced.
   e. Use of clauses begins.
   f. Use of free modifiers begins.
10. Individuals continually use more complex vocabulary and express more abstract meaning.
11. Penmanship, punctuation, capitalization, and complexities of word usage gradually improve.
12. Writers spend more time writing, reading, reflecting, and editing.
13. Styles mature; whole products improve and mature.

*This Exhibit may be found in Leutke-Stahlman and Luckner (1991). Used with permission.

Reviews

Language in Motion: Exploring the Nature of Sign. Jerome D. Schein and David A. Stewart. Washington, DC: Gallaudet University Press, 1995, 221 pages, ISBN 1-56368-039-4.

This book is a superb introduction to the world of sign communication and to th people who use it. The authors, one deaf and one hearing, are no strangers to th arena, and they handle their subject adroitly and with admirable even-handedne given the endemic controversies. Directed at readers with a general interest b without specific expertise, *Language in Motion* takes a refreshing anthropologic stance that is careful about defining terms and is likely to avoid giving offense informed readers who have an axe to grind. But although the book is witho invective, it does not lack backbone. The prejudice and oppression experienced l users of sign is not glossed over; nor are the successes. Balance is the hallmark this book.

Language in Motion opens with a discussion of the roots of sign languag beginning with prehistory and ranging to the present day. Subsequent chapte deal with the structure of sign, fingerspelling, different kinds of sign communic tion, learning to sign, interpreting issues, and the economics of sign. The fin chapter explores the culture, art, and sociology of Deaf communities. Readers ne to the neighborhood will leave the book with a satisfying sense of closure, havi been treated to a thorough sampling of what's what and who's who on the bloc More experienced readers will find dozens of details, insights, and interestin tidbits that they may have forgotten or never knew (such as the origin of th huddle). Each chapter features a number of storyboxes and ends with notes th provide related cultural, historical, or critical snapshots that add seasoning an depth.

As might be expected, I was most engaged as an educator with the chapter o different kinds of sign communication. I suppose this is because it addresses th crux of one of the major controversies in our field. The authors do the issu reasonable justice, given the brevity of available space, but I finished this chapt feeling that the authors believe MCE systems are not long for this world. This probably contrary to their intent, particularly in light of Stewart's efforts to im prove the implementation of MCE systems (Stewart, 1993; Stewart, Akamatsu, Becker, 1995). Nevertheless, I found myself scribbling notes about hearing parent right to choose English as their deaf child's first language (Ritter-Brinton Stewart, 1992), the effect of parental fluency on children's MCE and literacy skill (Babb, 1979; Lederberg, 1991), and the verbal language component of reading th begs for sign-to-word correspondence (Hoskins, 1990; Paul & Jackson, 1993) must concede, though, that in not delving into these aspects of the controversy th authors stay true to their stated intent of providing breadth rather than depth

SOCIAL INTERACTION

ASSESSMENT AND INTERVENTION WITH REGARD TO STUDENTS WHO ARE DEAF

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Personnel in school settings where deaf children are enrolled can play an important role in facilitating the acquisition of mature social skills. Social interaction assessment, curricula, and examples of goals and objectives are provided in this article as well as suggestions for facilitating social integration and developing a Circle of Friends. A tool that interpreters or other significant adults might utilize to empower hearing peers is also provided. It can be used for assessment purposes or as a model for appropriate comments. Finally, six commercially-available social skills curricula are described for use with students who are deaf.

Peer-related social interaction is the ability of children to successfully and appropriately select and carry out interpersonal skills (Guralnick, 1980). Most children who are deaf emerge from home environments having had a restricted range of interpersonal interactions as compared to hearing peers (Marschark, 1993). In particular, these children might experience interactional behaviors that differ substantially from those experienced by children who share effective communication with their parents.

Because the parents of many children who are deaf cannot communicate proficiently with their children, personnel in school settings can play a vital role in facilitating the acquisition of mature social skills. In this setting, children engage in peer communication (e.g., gossip, self-disclosure, problem solving, self exploration, etc.) in order to forge an understanding of their own emotions and how these emotions function in relation to other people" (Kluwin & Stinson, 1993; p. 73). Foster (1988) found that the value system of deaf students in the mainstream is identical to that of hearing students: forming friendships, going to parties, sharing in after school activities, etc. However, peer interaction between deaf and hearing students appears minimal and close friendships are not usually established (Farrugia & Austin, 1980; Foster, 1988; Libbey & Pronovost, 1980).

Social Interaction Assessment

To determine if a goal for increased social interaction should be written into an Individual Family Service Plan (IFSP) or an Individual Education Plan (IEP) for a student who is deaf, team members would want to conduct assessment in this area

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Vernon and Andrews (1990) suggested that an accurate social skills evaluation would involve a consideration of the child's case history, the examiner's personal experiences with the student, observations of behaviors by people knowledgeable of deafness, and formal testing. Social interaction assessment is of two types: that which is commercially available and that which is teacher designed. Commercially available assessment instruments allow teachers to identify the extent to which children are deficient in social skills and identify hearing and deaf children who might be targets for intervention (as they do not interact with all available peers). Examples of formal social assessment tools are listed below (Luetke-Stahlman, 1994):

1. Cain-Levine Social Competence Scale (Cain, Levine, & Elzey, 1963);
2. The Direct Observation of Children's Social Interaction (Odom, Silver, Sandler, Sandler & Strain, 1983);
3. Meadow-Kendall Social-Emotional Assessment Inventory (Meadow, 1983);
4. Social Skills for Daily Living (American Guidance Service, 1990);
5. The Systematic Anecdotal Assessment of Social Interaction (Odom, Kohler, & Strain, 1987);

The Meadow-Kendall Social-Emotional Assessment Inventory for Deaf and Hearing Impaired Students (SEAI) is the only social-emotional assessment tool designed specifically for children who are deaf (Meadow, 1983). An instructional manual and both preschool and school-age forms are available from the Outreach and Pre-College Programs at Gallaudet University.

The preschool tool consists of 49 items, covering the areas of sociable, communicative behaviors, impulsive, dominating behaviors, developmental lags, anxious, compulsive behaviors, and special items related to deafness (e.g., accepts hearing aid without complaint). The 59 school-age items cover the areas of social adjustment, self image, and emotional adjustment.

Teachers are to read each item carefully and decide if it describes observed behavior of a particular child. The teacher is to use as a referent all students of the same age, regardless of hearing status (Meadow, 1983). For items relevant only to students who are deaf, other such students are to be used as the referent, but not just those present in a particular class. Scores can be reported as percentiles and graphed.

Torline (1994) surveyed professionals in Kansas who were most responsible for psychosocial assessment and intervention with students who were deaf in their school district. She found that the majority of respondents assessed social behavior through observation although they were not trained to do so. Other common methods were an unspecified interview procedure and school behavior checklists.

Aljundi (in preparation) surveyed teachers of the deaf in Kansas as to formal tools utilized to assess social competence. She found that The American Association of Mental Deficiency Adaptive Behavior Scale, the Alpern-Boll Development Profile, the Battall, the Woodcock-Johnson Psychoeducational Battery — Scale of Independent Behavior and the Vineland Adaptive Behavior Scale were used. It is difficult to discern how such information might directly assist team members in determining needed social skills training or identifying hearing and deaf children who do not form genuine friendships. On a more positive note, Aljundi (in preparation) found that assessment tools from Skillstreaming the Adolescent, Skillstreaming the Elementary School Child, and Teaching Social Skills to Hearing Impaired Students were sometimes tried.

Available Curricula

Sorensen (1992) stated the importance of utilizing social skills curricula within the framework of the classroom that targets responsibility and indepen dence. White (1982) surveyed teache of the deaf to identify personal ar social competencies needed and foun the most frequently identified skil were accepting responsibility for a tions, self-awareness, decision makin confidence, initiative, dependabilit adaptive behavior, and interperson skills.

Given the existing need for soci integration curricula, it is unfortuna that materials have been developed f the general population of children wi disabilities and have minimized failed to include strategies that reco nize the unique communication diffe ences and needs of hearing and de students. For example, many teste social integration intervention ideas ar provided in a curriculum by Odom al. (1988). The volume, *The Integrate Preschool Curriculum: Procedures f Socially-Integrating Young Hand capped and Normally-Developing Chi dren*, includes a relevant review of th literature, a rationale for implementin integrative procedures into play cor texts, specific goals, an outline of th specific components of the curriculun and suggested activities to be used i the types of integrated programs mer tioned above. Unfortunately, adapta tions for children who are deaf are ex cluded. The book *Access For All. Int grating Deaf, Hard-of-Hearing, an Hearing Preschoolers* (Solit, Taylor, & Bednarczyk, 1992) provides genera and relevant information on deafness a model for interagency collaboration and strategies for adapting preschoo activities. However, programs in non metropolitan areas might have diff culty replicating the approach which modeled after a project located at th Child Development Center on th Gallaudet University campus. Th need for ample deaf adult role mode and a high ratio of staff to children wi signing ability may make some of th suggestions difficult to replicate in non metropolitan areas.

Greenberg and Kusche (1987) hav developed a program called Proacti

Alternative Thinking Strategies or PATHS to assist deaf children in the acquisition of self-control, emotional awareness, and social problem-solving skills. The results of research projects reported by the authors have shown that experience in PATHS has lead to significantly improved social and emotional functioning for both hearing and deaf students. Skills have been shown to transfer to the classroom setting.

In the text *Teaching Social Skills to Hearing Impaired Students*, Schloss and Smith (1990) provide a detailed outline of defining, assessing, and facilitating social skills for professionals to follow. The social development process and issues which might impede this process for students who are deaf are described, as well as steps to assess the child's skills, determine objectives and address those objectives through established intervention. Several assessment surveys are provided for children, teachers, and parents.

It may be that social skills curricula developed for hearing children can be adapted or used as a design for groups of children who are both deaf and hearing. Descriptions of some of those that are commercially available appear in Appendix A.

Goals and Objectives

Social integration goals and objectives can be included in IFSP's and IEP's. For example, objectives for "Kent", a three year-old deaf child, might be written as follows: Kent will

1. Work or play with at least one hearing partner for at least five minutes each day.

2. Describe his character in a role play (e.g., "I am the bus driver."), or an intended action (e.g., "I am going downtown.") to hearing children when encouraged by an adult and using an interpreter, if he chooses.

Objectives for Breeze, a deaf third grader might include:

1. Responding to two consecutive requests or comments from a hearing peer, with assistance from an interpreter/translator (I/T), during at least one interaction per day.

2. Providing two ideas during a cooperative learning activity with hearing peers.

Facilitating Social Integration

Parents of children who are deaf and enrolled in a daycare, nursery, after-school care, or similar types of programs should be asked to visit the program and provide staff with background information such as hearing ability, assistive equipment care, preferred mode of communication, and a copy of the IFSP or IEP goals and objectives (Luetke-Stahlman, 1995). Solit, Taylor, and Bednarczyk (1992) commented that if a child is hard-of-hearing it is highly likely that only slight modifications to early childhood activities (see below) will be necessary. However, if the family uses Signed English or American Sign Language (ASL) then an English transliterator or an ASL interpreter is a necessity. Hiring teachers, aides, or gathering volunteers who are deaf themselves is recommended for programs that include children who are deaf as these personnel serve as positive role models and provide linguistic access to adult and child exchanges.

Solit, Taylor, and Bednarczyk (1992) recommended the following activities to facilitate an appreciation for similarities and difference among those in the program:

1. Making available children's books on communication, Deaf Culture, and assistive devices in order to introduce or reinforce experiences and information directly disseminated in the programs.

2. Teaching basic function signs on a regular basis, giving everyone name signs, incorporating signing into routines, and having parts of songs or periods of time when only sign is used, thus calling attention to manual communication and the acquisition of a simple vocabulary by adults and children.

3. Helping adults become aware of how and when they can use their voices to control the class and give information. Children who are deaf may need to be cued to look at speakers or the I/T. Adults might need to flick the lights in addition to using spoken comments to signal a change in activities. Program participants might need to practice different ways of getting the children's attention.

4. Integrating awareness of and respect for Deaf Culture into their program to promote social awareness and self-esteem. Units such as *The Family, How People are Similar and Different, The Senses, Our Bodies*, and so forth, lend themselves to including discussions on deafness, communication, and the need for assistive equipment.

5. Helping children who are deaf to feel they are free to move around to improve their sightline to information or to move away from visually noisy distractions. People who wish to add to a group discussion should raise their hand or in some other way indicate turn-taking so the deaf children can follow who is contributing. Finally, if a deaf child does not understand a message, repetition, rephrasing, and visual support (e.g., mime, pictures) may help.

6. Modifying music and movement activities to assist all who wish to participate and enjoy them. How children who are deaf appreciate and understand music will differ depending on their hearing acuity, interest, and experience. Adults might try increasing the bass on live or recorded music, using review and

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demonstration before signing and/or acting, making sure the children who are deaf can see the leader of the activity, and adding signs and visual props to the songs that are taught to everyone involved. If a child does not wish to be actively involved in musical activities, he or she might assist the leader or be free to choose another activity.

7. Reading stories as a team. For example, one adult reading and one signing, one adult reading and signing simultaneously and the other holding the book, telling the story without a book to ease signing, both adults speaking and signing, but using only sign to relay some of the more redundant lines, and finally, using a flannel board or other visual support for the story.

Developing a Circle of Friends

School staff working with only one or two children who are deaf in rural or remote public school programs may consider establishing a Circle of Friends (Perske, 1988) if they are concerned about a particular child's opportunities for social interaction. They might meet regularly with the student, his/her parents and family members, peers, and school staff to discuss a plan of social interaction. They might discuss situations that present social challenges (e.g., peers inability to sign or the lack of an interpreter at lunch and recess) and brainstorm solutions. They might discuss ideas on how to educate others at school so that the deaf student's opportunities for social interaction are increased. Finally, they might plan several fun activities to build group cohesion in the Circle of Friends.

Peers participating in the Circle of Friends should do so on a voluntary basis and be dependable, caring people, capable of promoting friendship (Perske, 1988). It is also suggested that these peers be able to influence others and that they be seen as leaders or independent thinkers. Perske (1988) recommended approximately four or five peers as a sufficient number for weekly meetings at school. Outside Circle meetings, these peers might learn to sign, assist students as needed, and include the deaf student in social activities.

The Adult's Role in Social Interaction Among Children

Initially, an adult will probably be needed to facilitate the development of the non-existent or emerging social interaction behaviors that are desired in an integrated setting. This adult might be the general or special education teacher, a teacher of the deaf, an interpreter, or a paraprofessional. Schirmer (1989) found that teacher-structured, intentional free play is most beneficial for children who are deaf compared to free play in which adults do not participate. Opportunities for such socialization might occur during lunch, recess, inside recess, and unstructured times in the class room. Adults should be actively involved during these sessions to:

1. Model appropriate play and use self-talk strategies (Fey, 1986). For example, "I sure would like to play with someone. I see Lynn over there. Maybe I'll go ask her."

2. Direct the target child's attention to appropriate social interactions of others using comments (e.g., "Look over there... Lindsey is talking to Amy about recess.") inform talk (e.g., "Kelly said she liked your drawing and report.") (Luetke-Stahlman and Luckner, 1991) and interpreting/transliterating.

3. Reinforce or encourage the target child's social interaction (e.g., "It was nice of you to hand that scissor to Kerry.") and ideas for the target child's play using parallel talk ("You are playing with Lynn?") (Fey, 1986), question prompts, and reverse interpreting/transliterating.

Cooperative Work/Play

As students progress in their abilities to play or work cooperatively and interact socially with others, the adult's role becomes one of introducing the activity (utilizing more and more of the student's ideas) suggesting ideas prompting, modeling (either themselves or via another child) playing or sharing, interpreting and reverse interpreting, and evaluating. The adult will need to fade the role of social partner but maintain the role of interpreter/reverse interpreter until non-signing peers have acquired skills in those modalities that parallel their spontaneous speech skills. This approach will ensure that all children have social access to class activities.

Adults should begin cooperative activities by introducing the materials to be used and suggesting themes or uses for the materials (i.e., prompts). Adults could either sign for themselves or use the I/T. They might assign roles (e.g., "You be the scribe") or model a role play using the materials. The adult may need to encourage (e.g., "That's a good idea".) children who hesitate to interact or communicate. Students may need to be taught that when someone attempts to communicate with them, they should acknowledge them with a smile and appropriate response (Odom, et al. 1988) or that some children will need to tap or wave to get another's attention, before beginning to communicate. Often turning a deaf child around and asking hearing peers to call his or her name is enough to convince them that a deaf child's eye contact is paramount to successful linguistic interactions, especially given the noise levels in many learning situations.

Students may also learn social skills through high status peers or adults. Children who are deaf can be given status by allowing them to pass out materials, hold needed equipment, be the leader in an activity, or be post-

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tioned near the teacher. Most assuredly, adults will need to scrutinize activities for ways in which to arrange the environment in order that the student who is deaf is given status (Brown, Fox, & Brady, 1987).

Evaluation

Evaluation data can be used to reconstruct or adapt activities so that the goals and objectives of social integration can be achieved. The evaluation should include a data sheet, systematic observation, written comments, and other helpful information and be completed shortly after a play or a cooperative learning session has ended. A suggested form and hypothetical data appears in Appendix B (Odom, et al. 1988).

A Social Activity Example

An example of a cooperative activity appears in Appendix C (adapted from Odom, et al. 1988). This activity can be manipulated to encourage social interaction by giving children only some needed parts (e.g., one stapler for two children), seating hearing students and children who are deaf next to or across from each other, modeling key phrases in sign and body parts (many of which are points to a specific body part), and engaging in paired signing (e.g., the teacher signs a word for a hearing child, the hearing child initiates the signed word, the teacher signs another word, the child signs that word, etc., until the needed phrase is signed).

Direct Instruction of Social Skills

Hops, Walker, and Greenwood (1979) found that students must be taught both to initiate to a peer in a way that is likely to obtain a positive response from the other child and to respond to peers' initiations in a positive manner in order to continue the interaction or to encourage the peer to initiate again at a later time if instruction in social skills is to be effective. Initiating and responding skills can be taught directly to children during play activities in a manner that will allow for generalization to other activities in the class.

Antia and Kreimeyer (1992b) suggested that adults employ an intervention package that includes teacher modeling, prompting, phrasing, and activity structuring. Adults and child can be given specific scripts to practice and to role-play. Significant adults then fade themselves out gradually, utilizing procedures in which structured practice, less-structured practice, and maintenance practice occurs.

Summary

The challenging goal of integrating students who are hearing, deaf, and hard-of-hearing is one that requires thoughtful assessment, goal setting, intervention, evaluation, and re-evaluation by significant adults. Ideas presented in this paper should make the tasks of team members easier as strategies are attempted across a variety of integrated settings. Contributions to the field of knowledge with regard to the feasibility of encouraging social integration among students who are hearing and students who are deaf is encouraged and should include objective, data-based accounts of programs and outcome measures.

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La Revue ACESM

La revue officielle de l'Association canadienne des enseignants(es) des sourds(es) et des malentendants(es)

Author Copy - ACEHI Journal

ere," I whisper into his neck, struck by the weight of the
s of conversations he's missed. I lift him from the crib and hug
He bubbles and laughs and clutches at a dangling wire.
n is making this easy. He beams at the white-coated people as
eze cool earmold gel into his ear canals. He sits happily chewing
ack as I endure explanations of sign language systems and the
peech and language therapy.
t hard to take my eyes off his face. He is deaf. It will not get
re are some things to be done, some things to learn. That is all.
home. I pick up my son, and my husband and I walk to the van

e of violation overtakes me; I surrendered my baby to the people
d they handed him back less whole than when I brought him in.
nd-strewn streets of the city, the grey buildings, the cars con-
etore. This is our private cataclysm.
rmth of the early spring sun bores into my back as I slide open
f the van and hoist my son into his car seat. Arranging the straps
off shoulders, I bend and kiss his cheek. His eyes, bright and
ag me and pull me into him, into his reality.
ing there, against him, I sense an unexpected fragment of peace.
has altered irrevocably.
my son, nothing has changed. He is now as he was before.
sband turns the key and the van sputters and catches. We drive
ough the tears.
ll be all right.

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Communication Tips for General Educators Teaching Children Who are Deaf or Hard of Hearing

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Abstract

A reported 80% of children who are deaf or hard of hearing (D/HH) are now educated in public schools. Many of these students are enrolled in general education classrooms and are taught for part or all of the school day by teachers who are not trained in language intervention or deafness. In this context, mere exposure to language by children who are D/HH is not viewed as sufficient for either English language acquisition or comprehension of information. This article is written to assist public school professionals in providing appropriate instructional and social communication to these children. It includes 12 tips to remediate this situation. Such linguistic modifications will undoubtedly aid hearing children experiencing comprehension difficulties as well.

Résumé

On rapporte que 80% des enfants sourds et sourdes et malentendants et malentendantes sont présentement éduqués dans des écoles publiques. Beaucoup de ces élèves sont inscrits ou inscrites, selon le cas, dans des salles de classe d'éducation générale et ils et elles sont enseignés pour une partie, ou pour la journée scolaire entière, par des enseignants et des enseignantes qui ne sont pas formés dans l'intervention langagière ou même encore en éducation de la surdité. Dans ce contexte d'apprentissage le fait que les élèves qui sont sourds et sourdes et malentendants et malentendantes soient simplement exposés au langage n'est pas perçu comme étant suffisant pour l'acquisition de la langue anglaise ni pour la compréhension de l'information présentée. Cet article est écrit pour rendre service à ceux et à celles qui œuvrent dans les écoles publiques qui sont responsables pour présenter un niveau de communication sociale et de communication pour l'instruction appropriées à ces mêmes élèves. L'article présente douze indices qui pourraient aider à remédier à cette situation. De plus, de telles modifications linguistiques aideront surement aux élèves qui entendent bien mais qui éprouvent des difficultés de compréhension.

Because more and more children who are deaf or hard of hearing (D/HH) are entering or returning to public school classrooms, an increasing number of general education teachers are involved in their education. Reports from the United States government state that 80% of the school-aged population of children who are D/HH are now educated in public rather than residential school programs. It may be that general education teachers are the primary teachers working with such students or it may be that they are engaged in team-teaching activities, collaborating with a teacher of the deaf or a speech and language pathologist. This article is written to assist public school professionals in providing appropriate instructional and social communication to children who are D/HH. *Appropriate* is

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fined as input that is modified to make it comprehensible to students. In s context, mere exposure to the language in the classroom, even with employment of an educational interpreter, is not viewed as sufficient. Luetke-Stahlman (n.d.) has described a wider range of programmatic d curricular modifications for professionals working in public schools th students who are D/HH that might also interest readers. Topics cussed in the work include determining which language (i.e., American gn Language [ASL] or English) or system (i.e., an invented form of glish signing such as Signed English or Signing Exact English) is more ective for a child learning new and difficult information, providing mmunicative access to all school-sponsored activities, writing a school mmunication policy, making decisions about the language level of each ild, and informing interpreters of each student's communicative needs. e material discussed in this article differs in that it focuses on specific s as to how to communicate effectively with students who are D/HH. ore than likely the adaptations suggested below will assist hearing chil-en as well. Often those advocating for hearing children with language pairments, low literacy abilities, or second-language adjustments sug-st similar information.

nglish Language Needs

ildren who are D/HH do not typically possess age-appropriate English nguage skills. That is, hearing children, especially those who are white d living in middle-class homes, have almost adult-like comprehension d production of the English language by the time they enter grade 1. ildren who are D/HH are often understanding and using English that two or more years developmentally delayed at this same age. In addi-n, students who are D/HH may not make a year's language growth in year's time. Finally, linguistic needs may vary in children. For example, profoundly deaf 7-year-old may obtain a score that is typical of a hearing year-old on a formal test of English grammar, a score that is typical of a earing 4-year-old on standardized vocabulary test, and is not able to take rns in conversions and stay on topic for more than one or two turns. The rst step in deciding how best to communicate with such a student would e to determine if the child is most proficient in using ASL or English. This because if the student is ASL-dominant, interpreters will need to be ired who are proficient users of that language. However, most adults at hool will be English-speaking and will need to know the English lan-uage-age of each student to make modifications to his or her instructional nput.

In general, children who are D/HH encounter a greater difficulty in omprehending and using the English Language than do their hearing eers. Quigley and Paul (1984) reported that the vocabulary growth of hildren who are D/HH was significantly slower and reduced when com-ared with hearing peers, and the gap widens with age (Walters, 1978).

DeVilliers (1988) confirmed this statement, stating that "These students understand and use fewer English words across all different form classes (i.e., nouns, verbs, adjectives)" (p. 9). It is encouraging that Thompson, Biro, Vethivelu, Pious, and Hatfield (1987) found that children who are D/HH "and most language delayed children are more similar to than they are different from normal hearing children in the acquisition process.... The sequence of language acquisition is fairly stable while the rate is variable" (p. 21).

Few studies have been conducted that provide specific information as to the English language abilities of children who are D/HH (Simmons-Martin & Rossi, 1990). Moeller, Osberger, McConkey, and Eccarius (1981) found that 154 children from a midwestern residential school for the deaf were delayed on syntactic skills and did not evidence improvement after 10 years of age as measured by the Miller-Yoder Test of Grammatical Comprehension (Miller & Yoder, 1975) and the Test of Syntactic Abilities (TSA), developed by Quigley, Steinkamp, Power, and Jones (1978). Participants only demonstrated mean scores of 67% correct on preposition items, 44% correct on singular and plural noun items, 38% correct on verbs, 22% correct on verb inflection items, and 28% correct on pronoun items. In this same study students who completed the Vocabulary Comprehension Scale encountered the most difficulty with pronouns (i.e., only 55% of such items correctly understood).

Paul and O'Rourke (1988) found that students who are D/HH have problems with syntax and orthographic skills that make it difficult for them to infer the meaning of words in context. Also contributing to these difficulties are "prior knowledge, conceptual load, pronunciation, letter frequency, word frequency, and multiplicity of meanings" (Paul & Quigley, 1993, p. 160). Paul and Gustason (1991) noted that students who are D/HH seem unaware of multi-meaning words, which comprise two thirds of the words that appear in spoken and written context (Searls & Klesius, 1984). Payne and Quigley (1987) reported difficulties with regard to verb particles (e.g., *give us, come over*). Nolen and Wilber (1985) examined the comprehension of truncated passives of children who were D/HH (e.g., *the toy was found*) and reported that context added understanding, but children who were D/HH still evidenced significant difficulties.

It may help teachers to know some basic background information about students who are D/HH. For example, research by Davis, Elfenbein, Schum, and Bentler (1986) on 40 D/HH students in the Iowa public schools reviewed by Snyder (1993) revealed "no relationship between the language abilities of children who are D/HH and their degree of hearing loss" (p. 18). Teachers should not assume that because a child who is hard of hearing has more hearing than one who is profoundly deaf, he or she will not need the kind of linguistic support suggested in this article. On the

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other hand, "A child's age of onset of deafness is the critical biological variable affecting language development" (Bochner, 1982, p. 117). Bochner stated that a postlingually deafened child who has sustained a hearing loss at 3 years of age or older (after language has been acquired) has different language, communication, and educational needs than those of the prelingually deafened child whose loss was diagnosed between birth and 2 years of age. However, both types of children will require attention to instructional language modifications.

When professionals working with a child (referred to below as *the team*) have an appreciation of a student's form (grammar), meaning (semantic), and use (pragmatic) abilities, they can modify their instructional language appropriately. The teacher of the deaf or the speech language pathologist can be of invaluable assistance in keeping track of (or *tracking*) the grammatical structures that have been acquired by the child and those that should be introduced or "stimulated." This, of course, holds true for vocabulary and functions of language as well, and all decisions should be based on developmentally appropriate information. (The Washington Press publishes an excellent resource for the purpose of language stage identification: the *Developmental Language Curriculum* by Cheney, Compton, and Harder, 1988.) Luetke-Stahlman and Luckner (1991) refer to this practice as "input +1," a term borrowed from Steve Krashen, an educator of hearing, bilingual children. The concept also parallels Vygotsky's "zone of proximal development" (1962) and his advice that adults should facilitate the students' acquisition of new information by observing what children already comprehend and appreciating what they are ready to assimilate.

Language Goals and Objectives

After the team has performed appropriate linguistic assessment (across the three areas of language form, meaning, and use), they typically write goals and objectives for a student's Individual Family Service Plan (IFSP) or Individual Education Plan (IEP). These reflect the discrepancies between what they can linguistically understand and produce and what is normally expected of same-age, hearing peers. Most teams write an expressive (production) language goal as well as a receptive (comprehension) one. These goals might mention both ASL and English or only the English language. Objectives listing the specific needs, identified by formal and informal assessments, are listed under these goals and often include comprehension and use of words with multiple meanings, antonyms, synonyms, analogies, definitions, and classification categories. Examples are provided in Table 1.

Practical Implications

To support the developmentally delayed English language abilities of a student who is D/HH, teachers can use several specific strategies:

Table 1
Examples of Language Goals and Objectives for a Deaf Student

Goal 1: To improve receptive and expressive English abilities. The student will:	
Objective 1:	use articles in spontaneous conversation 90% of the time;
Objective 2:	be able to give antonyms, synonyms, and definitions of words that appear in reading texts;
Objective 3:	initiate, maintain, and terminate a conversation with peers during cooperative learning groups;
Objective 4:	
Goal 2: To improve receptive and expressive ASL abilities. The student will:	
Objective 1:	use classifiers during story retelling;
Objective 2:	explain the function of new vocabulary encountered while watching a "read-aloud" story;
Objective 3:	continue a conversation, taking at least four turns that are about the relevant topic;
Objective 4:	

1. *Secure the student's attention.* Make sure you have eye contact or that the student is watching the interpreter before you begin (or as you continue, having stopped to respond to a question or discuss a point).
2. *Introduce the topic of the lesson;* then, before you proceed any further, ask the child who is D/HH to tell you what the focus of the lesson is going to be. If more than one student needs this kind of assistance, ask a second student to repeat what the first child just said (if it is correct). If students are unable to repeat the main topic of the introduction, repeat it or ask another adult or child to repeat it. Then again ask the target student to repeat the topic.

   Success with this step indicates that the student who is D/HH is "with you" and is in a learning set—that is, ready to follow the elaboration you are about to provide. In addition, all children are alerted to your expectation that they each are responsible for the information being presented. Failure of a student to initially respond or to respond after a correct model has been provided should be noted and shared with other team members if the behavior persists.
3. *Introduce the new material in a logical manner and in small steps.* Give examples and nonexamples of the information (writing on the board or overhead to supply written context). Provide guided practice before expecting independence. This can be accomplished as a large group by asking pairs to discuss a response (and then checking it on signal, with you), or individually (e.g., the interpreter checks the first two or three answers on a worksheet and informs you with a predetermined signal that the student is on task).

   Such practice might include asking pairs of children to put an idea in their own words, define a key word together, repeat directions

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among themselves to clarify them, and so forth. Ask one or two pairs to share their work with the whole class and for the remaining children to judge whether the model reinforced that their ideas were also correct.

Guided practice can be challenging for adults and children alike if the teacher is talking, then allowing children to write, and then talking again. Remember that children reliant on manual communication must watch the interpreter before using their eyes to record their written responses to queries. If the student who is D/HH is still writing while you are expanding on information or having another child tell the class what they have written, this content will be missed (unseen). Providing sufficient time for these children's visual needs is called providing for *lag time* and cannot be avoided if your goal is participation and understanding by all students.

4. *Add context.* Point to real objects, pictures, graphs, displays, and demonstrate processes (e.g., running, dreaming, planning, etc.). Plan hands-on experiences, role-play, and use interviews, cooperative learning teams, peer-tutoring, and other forms of learning that allow the student to see what you are talking about.

Graphic organizers (semantic representations) are extremely helpful to children who have a developmentally lower language base. Teachers commonly use networking and word webs (Luetke-Stahlman & Luckner, 1991), but other possibilities include timelines, story pages, cycles, scales, Venn diagrams, cause and effect diagrams, grids, and comparison tables. Reduce the level of linguistic abstractions by drawing or illustrating something in a visual way to support the child's visual sense and provide a context that links language to the graphic. Having children suggest their own graphic organizer or using a previously drawn graphic organizer to discuss a concept also is helpful to children who are D/HH.

5. *Linking old information with new information.* Build on concepts that have already been successfully covered or on experiences that you know the student has had. Review any concepts or procedures that have been taught previously and are necessary to understand the information you are going to explain or discuss. Reinforce units being studied or concepts explained through use of multimedia computer programs, interactive bulletin boards, learning centers, or stories told as read-alouds. Don't assume because something was explained or learned successfully at one point in the school year that it has been retained by all students. Try to incorporate old concepts, grammar, and vocabulary into new activities so that they generalize.

6. *Talk slowly and distinctly,* standing near and facing the child who is speechreading you. Keep your hands down from your mouth, tie back your hair so it doesn't swing past your chin, use your hands to

provide meaningful gestures, and learn to write on the board while facing front (or don't talk while you are facing away from the child who is dependent on reading your speech). These behaviors aid the child who is hard of hearing as well as assist the interpreter who is relaying your speech through his or her hands to the child who needs this mode of communication to understand you.

7. *Repeat yourself often*. Paraphrase what you say in a new way that might include synonyms or definitions of new words or figurative expressions. Then stop and ask the students who are D/HH to provide those same synonyms ("What's another word for *auto*?") or definitions ("Can you define the word *auto*?"). Make sure that the subordinate categorizes the critical elements that you would expect from a peer are included in these responses.
8. *Test comprehension*. You might try multiple-choice questions: "Which are mammals? Elephants, toads, or bees?" Luetke-Stahlman and Luckner (1991) provided a dozen question prompts that can assist in determining if students really understand the material that has been presented. These include repeating the question ("Listen to my question again"), sequencing ("Can you count by 2s?—2, 4, 6."), listing ("How can we help the environment? We can collect cans, avoid waste"), multiple-choice (explained above), providing partial information ("What are the parts of an atom? Electrons? Yes, good. What's another part?"), and models (e.g., ask another adult or child to provide a response and then re-ask the target child). It may be that you call on the child who is D/HH more often that some of the other children in the class to ensure that he or she has understood important information.

   Monitoring the comprehension ability of the child who is D/HH on a weekly if not daily basis is extremely important. Teachers will not need to collect specific examples of progress to share with the team. If the student is not learning like his or her same-age peers, the team should discuss additional adaptations to the curriculum (Luetke-Stahlman, n.d.).
9. *If you call on children to assist you with a discussion, be sure they speak sequentially* and are not interrupting each other or talking at the same time, and that you either point to them or have them stand while making a contribution. Mediate topic changes and shifts so that the child who is D/HH is aware of these changes (e.g., "Oh, we just got off the topic for a minute there. We started to talk about our pets at home, but let's talk about mammals again now, OK?").
10. *Reduce the complexity of the syntax* you are using by first stating your original thought, and then:
    - simplify the word order (e.g., change directions such as "After you find page 121, look at me so that we can continue" to a simpler

construction. "Find page 121, look at me, and then we will continue");

- sequence directions in time (e.g., change "Go outside after lunch" to "After lunch, go outside");
- translate figurative expressions (e.g., follow "Hold your horses" with "Wait, please"); and
- add mime and facial expression to match your linguistic message. Avoid sarcasm and other forms of language where the meaning is conveyed primarily by intonation that cannot be heard by children who are D/HH.

Grammatical structures, new or difficult vocabulary, and conversational skills that are difficult for the student who is D/HH can also be shared with other service providers (e.g., the speech and language pathologist, teachers working with this student in the gifted program or resource room for children with learning disabilities), as well as parents, so that additional practice can be provided.

11. *Make students' independent demonstration of knowledge reasonable*, given the time constraints of the day. Many students who are D/HH are provided services by the speech and language pathologist during the school day and may be seen by other resource personnel as well. After school they may attend a residential school program (to learn ASL and socialize with other deaf children) or they may have appointments to see a private speech and language pathologist, an otolaryngologist (for medical reasons), or an audiologist (to have their hearing or equipment checked). Working parents often have difficulty getting their children to these various appointments, as well as monitoring them to complete home work or practice speech and audition skills as requested by the school speech and language pathologist. Consider this when you assign homework.
12. Keep parents informed as to how the student who is D/HH is comprehending classroom instruction and expressing his or her ideas using new vocabulary. Ask them to reinforce particular concepts or vocabulary at home. Ways to accomplish this step include (a) making a weekly video in which you show school work, talking about new or difficult concepts, and modelling signs; (b) calling or faxing; (c) sending notebooks for messages back and forth from home to school.

Conclusion

A dozen tips to make instructional and social language used at school comprehensible to children who are D/HH are described and exemplified in this article. Modifications made by professionals will undoubtedly aid hearing children experiencing comprehension difficulties as well. Those experiencing difficulties with adapting communication for children who are D/HH and enrolled in public school classes are encouraged to write the author for additional assistance.

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Impaired home communication often leaves deaf children with an incomplete grasp of social norms.

Interpreters can ease communication among all members of the school community, not just those who are deaf and hard of hearing

Top: free play and cooperative learning facilitated by adults are more beneficial for deaf children than similar activities in which adults do not participate.

Center: Adults continue to serve as interpreters and moderators until the deaf child's hearing peers acquire usable sign skills.

Below: Teachers introduce activities, suggest ideas, prompt and model appropriate behaviors

Classrooms, Communication, and

"The failure of [deaf and hard of hearing] children to develop positive social characteristics is not the immutable result of auditory impairment. Rather, it is a result of our failure to accommodate their language needs..."
—Schloss & Smith, 1990

Schools obviously have a vital role to play in helping deaf students acquire mature social skills. This is true partly because of the communication gaps that often occur in families where the adults use only speech and the children communicate in sign. Deaf children raised in such a situation are less likely than their hearing peers to develop a wide range of interpersonal skills (Marschark, 1993).

Rodda (1966) reported that impaired home communication often leaves children who are deaf and hard of hearing with a distorted or incomplete view of the social norms and attitudes of the majority culture.

If the factors that foster healthy social development are not available to children either at home or school, that learning is likely to be seriously delayed. Marschark (1993) suggests that the development of social skills among deaf children depends largely on three factors:

- Ready access to explanations of social behavior.
- The traits of other individuals with whom they interact.
- Access to the usual contexts of social interchange.

Foster (1988) found that the social values of deaf students enrolled in public school programs were identical to those of their hearing classmates. All children wish to form friendships, go to parties, participate in after-school activities, etc. In reality, however, socializing between deaf and hearing students tends to be minimal; they are rarely able to establish close and lasting friendships (Antia, 1985; Farrugia & Austin, 1980; Foster, 1988; Libbey & Pronovost, 1980).

Most public schools, however, fail to evaluate and teach social skills for students who are deaf and hard of hearing. Few attempts are made to compensate for their lack of communicative access before, during, and after school, as hearing children are busy making plans, arranging dates, socializing, and enjoying casual conversation.

What Teachers Can Do

Initially, teacher intervention is probably necessary to help deaf students develop the social skills they need to function happily in an integrated setting. Both Strain (1976) and Schirmer (1989) found that free play and cooperative learning facilitated by adults are more beneficial for deaf children than similar activities in which adults do not participate. Teachers should be actively involved during such sessions:

- Modeling appropriate play and self-talk strategies (Fey, 1986). For example, "I sure would like to play with someone. I see Lynn over there. Maybe I'll go ask her."

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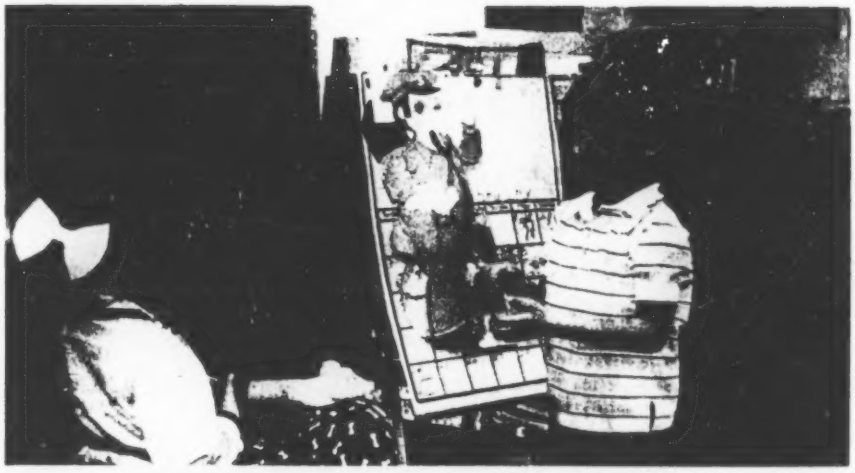
Photos supplied by the author.

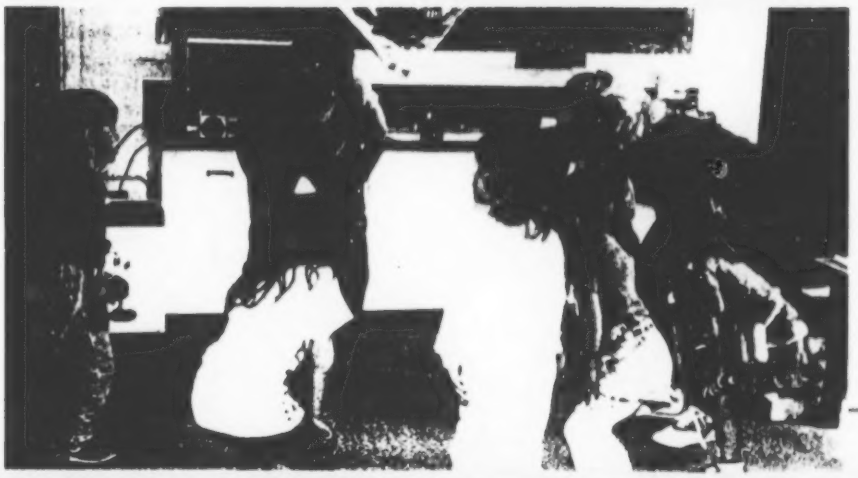
Make sure the classroom environment offers equal access to all students—deaf and hearing.

In a well-designed program, deaf students build social skills on the same timetable as their hearing peers.

Social Competence

By Barbara Luetke-Stahlman





- Directing the deaf child's attention to social interactions of others by making pertinent comments ("Look over there... Lindsey is talking to Amy about recess."); relaying positive information ("Kelly said she liked your drawing and report."); and interpreting /transliterating other children's conversations.

As children progress in their ability to play and learn cooperatively and to interact socially with others, the teacher's role becomes one of introducing activities, suggesting ideas, prompting and modeling appropriate behaviors (either their own or that of other children) playing and sharing, and two-way interpretation. As they gradually give up the role of social partner, involved adults should continue to serve as interpreters and moderators until the deaf child's hearing peers acquire usable sign skills.

Planning Cooperative Activities

In the classroom, teachers can initiate cooperative work and play by signing or using an interpreter to introduce a study theme or project

and the materials to be used. It is important to encourage and support students who have difficulty communicating ("What do you think?" "That's a good idea.")

Among the things both deaf and hearing children need to learn is that when someone attempts to communicate with them, they should respond by smiling, or by giving or showing something (Odom et al., 1988). Hearing children should also learn to get the attention of deaf classmates by tapping or waving, before trying to communicate. It is important to emphasize the need to establish eye contact as a prelude to successful interaction.

Students learn best through the examples set by high status peers or adults. Children who are deaf and hard of hearing can acquire status by being asked to pass out materials, hold needed equipment, lead activities, or sit near the teacher. It is also important to look at the classroom setup from a new perspective, upgrading the environment to provide equal access and status for every student, deaf or hearing (Brown, Fox, & Brady, 1987).

The Role of Interpreter

Interpreters are present in the classroom to move communication between languages, usually English to sign and vice versa. The role of the interpreter may vary greatly from program to program, depending on the needs of both children and adults, hearing and deaf. Program staff members may want to create a job description for the interpreter based on those needs, since neither interpreter training programs nor teacher guidebooks provide much useful information on the specific tasks that may be required.

Teaching Social Skills

To ensure access to the teaching of social skills for children who are deaf and hard of hearing, educators might question certain aspects of their programs.

- Guralnick (1990) defined social competence to include the components of effectiveness and appropriateness. Does your program use an appropriate, comprehensive social skills battery to assess the social competence of deaf students?
- Is the goal of improving social competence included on students' IEPs?
- Are social skills curricula reviewed by team members with a view to their appropriateness for use with deaf and hard of hearing students?

In pursuing the objective of social competence, team members might use the following strategies, remembering to provide comprehensive signed explanations.

Student Centered Activities:

Explain the reasons for and results of appropriate and inappropriate social and emotional behaviors.
Promote and encourage the social independence of every student—deaf or hearing.
Teach and demonstrate strategies for peer group socialization, then monitor students' success in the use of those strategies.
Provide deaf students with plenty of opportunity to interact throughout the day with hearing children who sign well.
Make sure deaf and hearing children communicate freely before, during, and after class activities.
Clarify the group norms of social behavior for deaf and hearing students.

Adult Centered Activities:

Provide direct, ongoing instruction in social skills for all students.
Set up cooperative learning groups, peer tutoring, and other kinds of interactive approaches to learning.
Assess the social status of deaf and hard of hearing students. Find ways to help build self esteem.
Provide regular sign instruction for hearing adults and students in the school community.
Monitor the appropriateness and effectiveness of social communication among students; reinforce desired behaviors.
Provide students with adult role models who are deaf and hard of hearing and who sign well.
Make sure qualified interpreters are present to facilitate communication before, during, and after school-sponsored activities: on school buses, in hallways, the lunchroom, the school yard, etc.
Emphasize the presence of interpreters to ease socialization among all members of the school community, not just those who are deaf and hard of hearing. Clarify their role in encouraging social integration among all students.
Train all staff members in the importance of encouraging social competence (Solit, Taylor, & Bednarczyk, 1992).
Evaluate the classroom environment; increase opportunities for socialization among all students; do not permit the isolation of any child.
Encourage lasting friendships between deaf and hearing children. Make it possible for students who are friendly to remain in the same classes and progress through school together.
Regularly evaluate all students' achievement of social objectives.

Judging Your Program's Success

The challenge of facilitating social competence in students who are deaf and hard of hearing requires thoughtful assessment, goal-setting, adult intervention, program modification, and evaluation by school teams. Evaluations can be based on a number of criteria, including the following.

Are students' social behavior and interactions appropriate? How much social reciprocity takes place among students? What strategies do students use for peer acceptance? Do they succeed? How do students

select other children to work and play with? Have your deaf students established a network of friends in class? What is the social status of deaf students among their classmates? How great is the incidence of social problems?

How much social interaction takes place during classroom activities? Do you attempt to vary the social composition of working groups? Do you encourage social interaction among deaf and hearing students? Are deaf adults involved in your public school community? Do you encourage hearing students to develop usable sign skills? Are students who are deaf and hard of hearing encouraged to rate their own social competence?

Teachers can make sure that both deaf and hearing children communicate freely before, during, and after classroom activities.

Dual-Purpose Learning

The following sample lesson demonstrates how teachers and interpreters might work together to facilitate socialization among students in a learning situation.

Sample Activity:
Teaching Social Skills During Cooperative Learning

Assignment: Students work cooperatively in groups of three or four to create a skit, bulletin board, or other presentation on some aspect of the environment.

Materials: Paper, pencils, markers, construction paper

Social Objectives

Each child will:
Share ideas, respond to the suggestions of other students.
Initiate at least two contributions to the class discussion.
Take some role in the project (artist, scribe, reporter, etc.).

Teacher's Role:
Set up the assignment; make sure it is clear to everyone.
Use prompting (see below) to encourage continuous interaction among all of the children.
Provide whatever support students need to complete the activity. Let each child know that his or her input was valuable.

Interpreter's Role:
Interpret for teacher and both deaf and hearing children as needed.
Help children achieve socialization objectives.
Encourage deaf and hearing students to talk directly to each other. Help all of the children to sign for themselves as much as possible, providing key vocabulary as needed.

Encouraging Social Interaction

Direct Communication:
"Look right at Mandy and restate that, OK? I'll interpret for you."
"Here, let me move a little bit, so you can tell Jimmy more easily."

Use of Sign:
"You signed that very well."
"Here's the sign for tree."
"Try using this sign for river. There you go!"

Sharing/Valuing Ideas:
"Terry, do you understand Bill's idea? What do you think?"
"Tell Ana why you think that was a good suggestion."

Initiating Conversations:
"Maura, Terry (a deaf child) wants to add something."
"Let's wait a minute. Leon, did you have a comment?"

Taking Part in the Activity:
"Brittany, what do you want to do for the project?"
"Nicky, explain to the group what you'll be doing."

Far beyond the schoolroom and the playground, social competence is an important foundation for building a healthy self image and personal and professional success. A well-designed school program, managed by competent, caring adults, makes it possible for students who are deaf and hard of hearing to acquire social skills and awareness on the same timetable as their hearing peers. ■

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A Teaching Practicum: Sharing the Di

experience. Help student teachers get organized by giving them space of their own: a desk, a shelf, or a table where they can work, store materials, and keep notes.

The practicum experience can be both mentally and physically exhausting. It may be a good idea to remind the student teacher of the importance of eating well, getting plenty of rest, making time for exercise, and maintaining some kind of social life.

Getting the Goals Straight

"It is not my job to entertain students or to become friends with them, it is my job to teach them." —Lamm, 1992

Student teachers occasionally seem to have an idea that their job is to keep the students happy. There is nothing wrong with presenting lessons in a lively and interesting manner, but as a cooperating teacher, you can help keep things in perspective: it's important to educate, but not necessarily to entertain. If a student teacher hears occasional complaints about "boring" lessons, remind her that students have been making such complaints since the dawn of time, she is probably on the right track.

Focusing on Students

"The better I know the students, the better I can prepare lessons tailored to their needs. Therefore, I look forward to learning more about them." —Kratz, 1992

It is not unusual for student teachers to be so involved in their own classroom performance that they lose sight of students' needs. This is understandable; the favorable impressions of the supervising and cooperating teachers are of great importance during the practicum experience. Here again, the cooperating teacher can help by continuing to emphasize student progress as the most important indicator of teacher competen discussions of tea and techniques, a specific students.

Providing Feedb

"I need to realize that can and that no one absolutely perfect." —

Hard-working stuc value cooperating frank and honest room performance need to know that occasional mistak occasional tough cally, this is the o teaching skills. W to criticize a stude ever, try to remem to be in that posit tactful as well as t

An atmosphere of trust will help stu take the risk of sel help in any seriou teaching performa environment is al encourage them t tion, without bein they occasionally

A good technique way for constructi listen attentively t teacher's concern many answers as tant questions. O meaningful feedb asking the studen her day, encourag insights on her ov course, student te occasional praise; dispense generou mendation as wel

Finding Teachal

"I was so caught up attention and some that I missed capitali comments." —Krat

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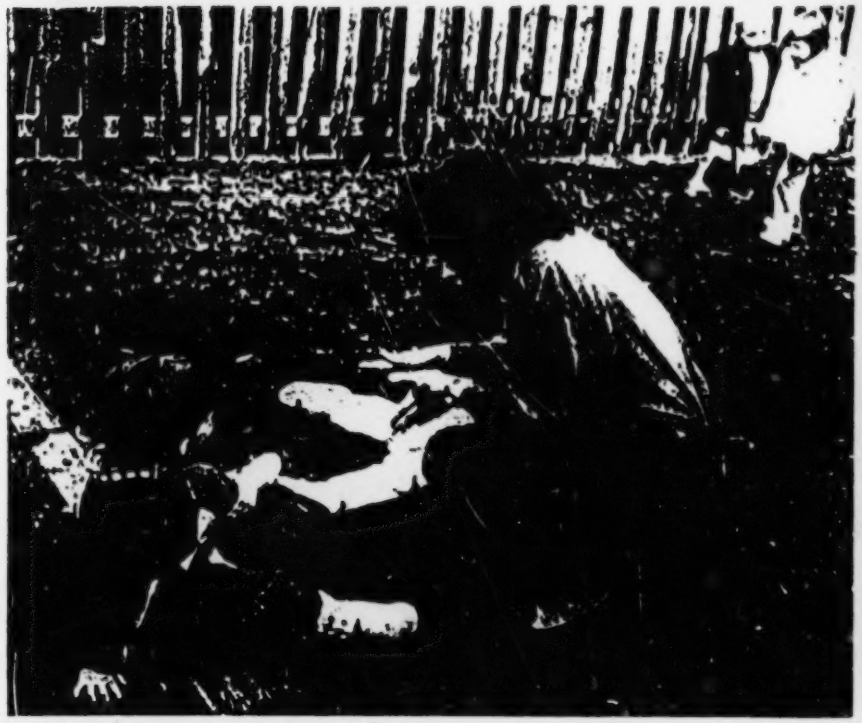

BASIC INTERPRETING STRATEGIES FOR PARENTS

By Barbara Luethe-Stahlman

Basic interpreting skills can help parents and their deaf children communicate more effectively.

Vivid body language and facial expressions add visual interest to stories for deaf children.

Exaggerated, repetitious signing has similar entertainment value to repeated nonsense rhymes.

A child's eagerness to read may depend on how well adults communicate the magic to be found in books.

Meeting interpretive challenges can build your communication skills as well as those of your child.

When President Clinton went to Japan, he took along highly qualified interpreters with fluent, instinctive command of both English and Japanese.

The United Nations is not likely to employ interpreters who are only vaguely familiar with the necessary languages, but who plan to "pick it up as they go along."

Hearing parents are almost always the first interpreters for their deaf and hard of hearing children, but how many have ever studied basic interpretive techniques?

Few parents find it feasible to tak formal interpreting course. As an alternative, a workshop or series lessons in basic interpreting techniques would help them build mo effective communication with the children through stories, songs, a everyday conversation. Schools a programs for deaf students might want to explore the possibility of sponsoring interpretation workshops for parents and other interested family members.

Meanwhile, the following tips m be helpful to parents who do not want to miss the opportunity to

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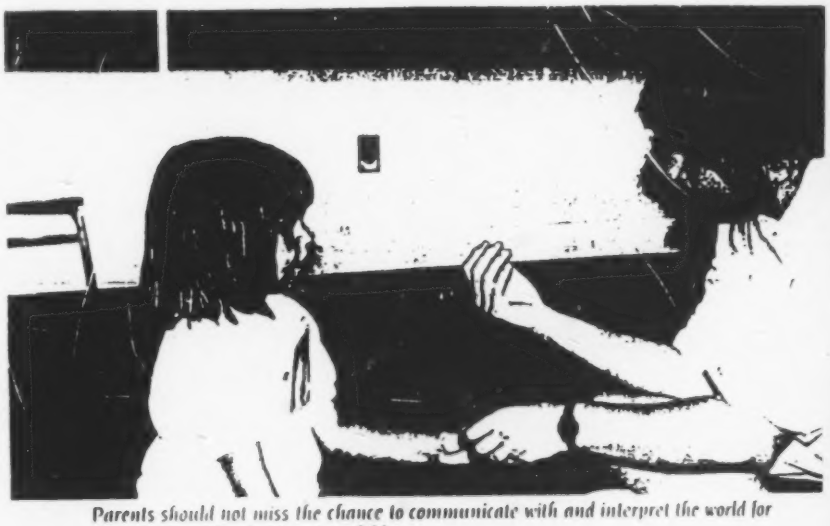
To interpret for a child, use signs clearly and consistently, and make sure you are easily in the child's line of vision.

communicate with and interpret the world for their children.



Parents should not miss the chance to communicate with and interpret the world for their deaf and hard of hearing children.

A Place in Space

Set up a specific position in space for each character in a story, song, or discussion. When you interpret a story with more than one character, the plot becomes visually clearer if you assign spaces to your right, left, center, etc. for the various characters. Point consistently to the space assigned to each character as you tell what they say or do.

When you are talking about real people in the child's life, you might use the space where those people usually sit or most recently appeared to represent them in a current conversation. For example, if Grandma has just left the room, sign something like, "Grandma (point to the place where she was standing) went to get you an apple."

When you use directional verb signs to indicate action or conversation between two or more characters, move the signs (GO, TAKE, TELL, etc.) between the spaces set up to represent the characters involved. For example, let's say you have placed Erica on your right and Tom on your left. Erica is planning to go to Tom's house. You would sign "Erica" (referencing your right) is going to Tom's house" (referencing your left).

Naming Names

To avoid continually fingerspelling characters' names, spell the name the first time it is used, then add an invented name sign. The second or third time that character appears in the conversation, you might use both the name sign and the fingerspelled name to reinforce the use of the new sign, depending on the age of your child and how lengthy the name is. Once the name sign has been established, use it exclusively.

To create a name sign, you might use the first or first and last initials of the name you need and locate the sign at a spot on your body that is not being used for anyone else. Name signs are typically located near the face, over the heart or the chest, down one arm, or horizontally from heart to right hip.

Another strategy is to use the first letter of the name as the handshape to form a sign that identifies the character. For example, in the "Pooh" stories, Tigger might be indicated with the sign for "TIGER," using a T handshape, and Eeyore as "DONKEY," using the E handshape. To tell a story about Bart Simpson, use parallel handshapes, B merging into to S, to form the distinctive squared-off haircut.

If a song or story requires you to repeat a long string of names, find a manageable strategy that makes it clear what is happening, and also indicates that you are talking a a definite group of characters might letter-cue each girl's nan your cheek where the sign for " is made, and on the forehead f boys' names. Or letter-cue all c the girls on your right side and boys on your left, as you point the hypothetical children.

When five names or fewer are involved, you might touch a di ent finger of one hand for each name, and fingerspell or use a initialized sign to indicate whc are talking about. Later it may be enough to touch the fingers again, in to indicate the same characte

Is There a Sign for That?

Most stories contain lots of w for which either there are no or you don't know them. You always fingerspell, of course depending on the age of your and the extent of your sign vc lary, too much fingerspelling be confusing and interfere w continuity. It may be best to spell as few words as possibl

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Strategies for Parents

One helpful strategy is to fingerspell the basic words that explain the concept, then fingerspell or make up a letter-cued sign for one key word that will stand for the whole idea. To communicate the concept from then on—either use the new sign or fingerspell the representative word.

For example, you might want to communicate the information that, "New Jersey is one of the 13 original colonies." You could sign "STATE, NJ, ONE, FIRST, 13," then fingerspell original and colonies. When those words are used again, you could sign "original" as "FIRST," using an "O" handshape, and "colonies" as "STATES" with a "C" handshape.

Sight Lines and Characters

Conversations among characters in a story become more interesting if you adapt your signing position so that taller characters are signing—and looking "down" to shorter characters, while smaller characters are signing "up" to bigger ones. You can also make your signs smaller or larger (but still clear) when a small or shy character and a big, bold character are interacting.

Using vivid body language and facial expressions can add important visual interest to stories for deaf children, just as vocal emphasis increases the enjoyment of hearing children. If you feel shy about incorporating such features, just watch the enchantment on your child's face and remember why you are interpreting in the first place. The approval or amusement of hearing people who may be watching is not a priority.

The Loosey Goosey Challenge

The nonsense rhymes so often used in favorite children's songs and stories usually are essentially meaningless for deaf and hard of hearing children. Exaggerated, repeated signs, however, often carry the same kind of entertainment value. One way to translate the fun of a nonsense rhyme for a deaf child is to repeat the basic word, first with a letter cue and then in its original form.

Loosey Goosey, for example, would be "LLGOOSE" PLUS "GOOSE." For "Jack Horner (sat in a corner)" you could sign Horner with the sign corner, substituting an H handshape. Thus, making the name sign resemble the sign for corner creates a kind of visual rhyme. Such strategies are particularly helpful when the storyteller must repeat several nonsense rhymes at a fast pace.

For a long word like "supercalifragelistic-expialidocius," you might begin by fingerspelling "S.U.P." and then sign "fingerspell" a few times until the voicing of the word has stopped. The fun of that and many similar nonsense words is in their exaggerated length, not their precise spelling, so that is the message children should receive.

One popular children's song includes the repeated phrase "rubber blubber whale." To translate that phrase, I once saw an interpreter use an "X" classifier (a handshape that functions something like a pronoun in English; for the word "blubber." Using that classifier allowed her to convey both the sign for rubber (which also uses the X shape) and the concept of blubber very quickly.

When you have a chance, discuss song lyrics with professional interpreters to learn how they handle nonsense rhymes and other difficult phrases. Then share any useful techniques you learn with other parents.

Where To Situate Yourself

When you are interpreting for your child during a public performance, it may be uncomfortable or impossible to stand on stage with the actors or storytellers. Unless you have volunteered to interpret for a whole audience or a large group, it is probably easiest to sit right in front of and facing the child. Your back will be to the storyteller or play, but you will be able to hear, and your child can watch you and the performance at the same time. Another option, in a movie or live theater, is to sit beside the deaf child in a spot that affords enough light to see clearly.

To interpret circle games or songs or conversations at a large dinner party, stand or sit across from the child. To interpret a panel or small group discussion, you might stand behind each of the participants as they speak, if you feel comfortable changing locations to indicate who is speaking.

Sign Up for ASL Class!

Even if your family uses some form of English-based signing at home, classes in American Sign Language can teach you a lot about becoming a better interpreter. Look for classes that are taught by deaf instructors. Watch how clearly and vividly they express themselves, how they use space and movement to convey information, and how they emphasize directional signing to refer to various characters.

We all want our children to be good readers and to enjoy stories. Their eagerness to read depends greatly on how well we transmit the tales, the characters, the actions and emotions offered by the world of books. Just as singers and storytellers practice their art form, you need to practice the skills that allow you to sign effectively.

The opportunity to interpret for a child is both a duty and a gift. Although it may be difficult to deal with complex words and phrases, meeting those challenges can develop your communication skills as well as those of your child. And no one is better qualified than you to explore, interpret, and share the world with your child.

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THREE PSE STUDIES: IMPLICATIONS FOR EDUCATORS

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Abstract

Luetke-Stahlman (1988a) found, in a project referred to here as Study 1, that a group of deaf students exposed to adults who purported to use Signed English or PSE scored significantly lower on a battery of English language and reading tests than did children exposed to teachers who proported to use ASL, oral English, SEE 1 or SEE 2. Analysis of adults' spontaneous language samples revealed that SE/PSE users had a sign-to-voice ratio of 71% (SEE=86%) and a semantic intact ratio of 58% (SEE=82%).

In Study 2 the receptive language abilities of hearing adults were studied. Subjects (n=22) viewed a videotaped set of stimuli (without audio) and transcribed 25 sentences that they had originally signed in a previous study (Luetke-Stahlman, 1991). The total number of sentences for which each group of SEE, SE, or PSE signers correctly identified selected form and content features were analyzed. Analysis revealed a significant difference for both form and content comparisons across the three groups. Post hoc analysis identified a significant effect favoring SEE subjects compared to PSE subjects and Signed English subjects compared to PSE subjects with regard to form and meaning. Further, SEE 2 users accurately transcribed themselves signing seven figurative phrases 95% of the time (SE=71%, PSE=23%).

In Study 3, the quality of PSE was controlled. The task required proficient PSE users to transcribe two highly similar paragraphs of information containing multiple uses of the word "run", one signed in PSE and one signed in SEE 2. Subjects transcribed both the form and meaning of SEE stories significantly more accurately than they did PSE versions. The three studies are discussed with regard to ramifications for education at home and at school.

Introduction

A pidgin develops naturally when people who do not know each other's languages wish to communicate. Pidgin Sign English, (PSE) a contact language, combines the languages of American Sign Language and English. I often used the utterances "Tu no me catchas" and "Wowita" as analogies to PSE. These phrases combine words from both English and Spanish. Even if you weren't an English speaker you would know that "wow" and "catch" aren't Spanish. And even if you were not a Spanish speaker, you probably realize that "ita" and the "as" ending on the verb are not English structures. The words "no" and "me" could be either English or Spanish words depending on pronunciation. Neither one of these utterances represent the grammar of the original or source languages. The utterances are combinations of Spanish and English; just as PSE is a combination of ASL and various forms of English.

A pidgin combines certain structures (or forms) and vocabulary (content or meaning) from the native languages it combines. In all pidgins, form is reduced when compared to the richness and maturity of the grammar and syntax available in the original languages. Baker and Cokely (1980) reported that PSE does not have a specific

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set of rules; rather, there is variation in the grammar of the contact language.

PSE differs from the manual codes of English in several ways (Baker & Cokely, 1980): (1) it was not artificially invented but evolved naturally; (2) it's not intended to represent English; and (3) its vocabulary does not necessarily have a relationship to the sound or spelling of English. PSE signs are generally based on meaning. PSE was not designed to be used in the classroom or to teach or model English. The purpose of a contact language is social communication.

Little research is available that compares the signing abilities of adults. The first two studies presented below compare the abilities of adults who label themselves as PSE users with adults who label themselves users of sign systems. The third study more closely examines the ability of proficient users of PSE.

Study 1

Method

The purpose of the study reported here (Luetke-Stahlman, 1988a) was to compare the literacy achievement of a group of children who were deaf and hard-of-hearing (D/HH) and who had demonstrated their ability to progress in private and residential oral programs with the literacy achievement of other groups of students who were D/HH and whose teachers used various forms of simultaneous communication. The hypothesis was that there would be no difference on tests of reading and English between students who were D/HH and exposed to linguistic models that were comprehensible to them, that were used consistently, and that attempted to completely encode a language and students exposed to linguistic models in which the signed portion of the English was variable with regard to form and did not correspond closely with the spoken portion.

Subjects

Five to twelve year-old students who were D/HH, of normal intelligence, and had no additional handicaps that interfered with academics, served as subjects. Group A subjects (n=109) had been exposed to oral English, Cued Speech, SEE 1, SEE 2, and American Sign Language (ASL); Group B subjects (n=74) Signed/Manual English (SE/ME) and Pidgin Signed English (PSE). Subjects represented public, private, and residential schools and had been enrolled in their school program for a minimum of three years. Seventy-five percent of the subjects in Group A were from middle class homes as compared to 91% of the subjects in Group B. Both groups were approximately 41% male and 59% female. A subset of Anglo-only subjects (n=99) was extracted from the subject pool for additional analysis.

The hearing acuity of the 183 subjects who participated in the study was averaged across the speech range to obtain aided and unaided pure-tone averages (PTAs). For Group A, the aided mean PTA was 52.5% (SD=24.8) and the unaided mean PTA was 89.5% (SD=19.7). For Group B, the aided mean PTA was 47.1% (SD=22.3) and the unaided mean PTA was 91.6% (SD=20.5).

Instruments

Date of birth, age at time of testing, aided and unaided audiometric information, home environmental survey data, and surveys requesting information on speech and reading methods and materials were collected.

The author tested most subjects. A school professional (e.g., speech and language pathologist) administered the literacy battery in the two oral programs and to the subjects using Cued Speech and Seeing Essential English (SEE). Each student was tested individually in a familiar room at the school of attendance. Testing took approximately 30 minutes per subject.

The literacy battery (adapted from Moeller & McConkey, 1983) consisted of seven tests. Four receptive subtests of the Woodcock-Johnson Psychoeducational Battery (1982) were included: passage comprehension (a cloze procedure), antonyms, synonyms, and picture vocabulary tests. The antonyms and synonyms tests provided sub-

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jects with little context (e.g., What is the opposite of big?). For the picture vocabulary test, subjects were required to label specific pictures. The Johns Sight Word List for Third-Graders (Johns, 1978) and the receptive portion of the Northwest Syntax Screening Test (NSST; Lee, 1969) were also used. The NSST requests that the subject choose one of four pictures when asked about a specific grammatical feature of interest (e.g., Show me "The boys write." Show me. "The boy writes.").

A 10- to 15-minute language sample from each program using sign was also analyzed (see Moeller & Luetke-Stahlman, 1990, for procedural information). 25 subjects purported to use SEE 1 or SEE 2 and 25 subjects porported to use Signed English/Manual English or PSE. A mean of at least 100 utterances per subject were analyzed as teachers taught deaf students spontaneously in educational contexts. Group A subjects had a MLU of a little more than five words per utterance; Group B subjects signed slightly more than four words per utterance (See Table 1). Sign-to-voice-ratio also was somewhat higher for the SEE subjects. The semantic (or meaning) ratio was significantly different between the two groups: 82% for Group A; 58% for Group B. This means that about half the time Group B adults were not conveying the meaning of what they were saying on their hands. Yet, Group B teachers and interpreters had taught for more years and had signed for more years than Group A teachers. There was a high interjudge reliability for the adult data analysis. The lengthy analysis confirmed that Group A signers communicated in a more consistent manner, using signs in closer correspondence to speech than did Group B signers (see Luetke-Stahlman, 1988b). See Table 1.

Analysis and Results

To determine if there was a significant difference between subjects exposed to Group A or Group B instructional inputs, a planned orthogonal comparison design was used. Univariate ANCOVAs were run for each test in which language or system models served as independent variables and scores from the seven tests served as dependent variables. Age and unaided and aided average hearing acuity were covaried systematically. Group A subjects' means in six of the seven measures significantly differed in a positive direction from those of subjects in Group B. Results analyzed separately from only the Anglo subjects were similar.

When the various inputs were analyzed without a priori division (using ANCOVA and Scheffe follow-up procedures), subjects exposed to SEE 2, oral English, SEE 1 and ASL scored significantly higher on several tests than did subjects exposed to SE/ME or PSE. (See Table 2). Results of the analyses were similar.

Table 1

Adult data from Study 1

	SEE 1 & 2	SE/PSE
# of utterances	104	112
X voiced MLU	6.1	5.9
X signed MLU	5.4 ($p<.02$)	4.2
sign-to-voice ratio	86%	71%
X semantic intent ratio	82% ($p<.001$)	58%
SEE 2 Consistency	68%	—
# of years taught	7.9	9.9
# of years signed	7.3	11.7 ($p<.03$)
IJR	90%	88%

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Table 2

Summary of significant ANOVA results when age and aided acuity were controlled (all subjects) and Scheffe ($p<.05$).*

	SEE-2 *(N=26)*	Oral English *(N=14)*	SEE-1 (Texas) *(N=22)*	ASL *(N=12)*
Oral English	Synonyms			
SEE-1 (Texas)	Passage comprehension Synonyms			
SEE-2		Picture vocabulary		
ASL	Passage comprehension	Picture vocabulary		
SE/ME *(N=23)*	Passagec omprehension	Passage comprehension Picture vocabulary NSST	Passage comprehension Picture vocabulary NSST	NSST
PSE *(N=21)*	Synonyms Picture vocabulary NSST Passage comprehension	Picture vocabulary NSST	Picture vocabulary	

*Vertically listed input significant over horizontally listed input.

Curriculum comparisons revealed a high degree of similarity among programs. Higher speech intelligibility ratings obtained across subjects correlated to their unaided and aided pure-tone acuity averaged across the speech range.

Study 2*

Proficient Adults' Comprehension of One of Three Sign Languages/Systems

A paucity of information exists with regard to adults' receptive skills (Akamatsu & Fischer, 1991). This avenue of research might be extremely useful to educators working with deaf and hard-of-hearing students. Unlike most deaf students, the hearing adults who have served as subjects in various research projects (e.g., Kluwin, 1981; Luetke-Stahlman, 1989; Marmor & Pettito, 1979; Mayer & Lowenbraun, 1990; Swisher & Thompson, 1985) have acquired a strong first language base in English. It is assumed that characteristics of the form and content of English that are difficult for these adults

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to sign or understand would be difficult for deaf students who do not typically have a primary communication base (King & Quigley, 1985; McAnnally, Rose, & Quigley, 1984; and Quigley & Paul, 1984). Most certainly, the quality of the language model provided by signing adults would seemingly influence deaf students' knowledge of both the language and the subject matter being discussed. Wood (1991) recently emphasized this point as well, hypothesizing that "it seems entirely possible that deaf children experience developmental and educational delays not because they lack a language of thought but because hearing people find it more difficult to pass on their knowledge, skill, and understanding to them because of problems of communication" (Wood, 1991; p. 249).

It was the focus of Study 2 to investigate the receptive English language abilities of hearing adults who were professionals in the field of deafness and proficient in their abilities to read, write, and speak English. The following hypotheses were addressed: (1) there is no difference in the ability of subjects representing three simultaneous (signed and spoken) linguistic models to comprehend the *form* of a set of stimuli; and (2) there is no difference in the ability of subjects representing three simultaneous (signed and spoken) linguistic models to comprehend the *meaning* of a set of stimuli.

Methods

Subjects

Twenty-two adults who were teachers and interpreters working in deaf education served as subjects for the study. Eight subjects represented SEE models, six represented Signed/Manual English models, and eight represented Pidgin Sign English models. SEE signers were from programs in Iowa, Nebraska, and Missouri; SE and PSE signers were from several sites in Illinois. The SEE subjects had been signing a mean of 7.4 years, the SE subjects a mean of 9.6 years, and the PSE subjects for a mean of 7.1 years.

Procedure

Subjects utilized in Study 2 had been videotaped between 1988 and 1989 as they signed a set of stimuli. These sentences were specifically designed with both English and ASL features in mind: affixes use, inclusion of causality and coordination, need for directionality and space, novel vocabulary, figurative English, plural, negation, and pronoun usage. A videotape of the visual (and not audio) portion of each subject was duplicated from each sample in the author's collection and mailed to the subjects. Examples of the stimuli are as follows:

> I am asking what you are doing because time is fleeting.
>
> Wait, and if you can do it, then go two weeks later.
>
> Oh well, time marches on.
>
> He eats like a horse too.
>
> She works like a dog but it doesn't matter to them. (Luetke-Stahlman, 1991).

Videotapes were sent to contacts in participating programs throughout the Midwest. Contacts were subjects themselves and were also responsible to make arrangements for each subject to view their portion of the tape, transcribe the stimuli, and seal their work in an envelope (or otherwise keep it confidential). Contacts were then to collect each envelope and return it to the author.

The transcripts were scored by a graduate student (GA) trained by the author. The GA compared the form of each transcribed sentence to the original stimuli. The author then independently scored the samples and discussed any differences in results with the GA until agreement was reached. Thus, there was 100% interjudge reliability in the form and content coding of all transcripts.

Form credit was given to a subject when they transcribed an exact replica of the sentence. For example, if the stimulus was, "Oh my goodness, they are quiet as mice", and a subject transcribed that exact sentence, she received the full form credit. A subject also got credit if she transcribed the correct root of a word but added morphemes. For example, "Oh my goodness, they *are* quiet as mice", transcribed as, "Oh my goodness, they *were* quiet as mice". (The "be verb" root was

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given credit even though the subject transcribed an additional morpheme of past tense.)

However, if the original root of a verb was not transcribed, subjects were not given credit. For example, if the original word was "running" and a subject wrote "walked" or the word was "running" and she wrote "walking", she was not given credit (because the original root was not transcribed) even though she may have transcribed the correct verb ending.

If subjects transcribe an utterance in different word order, they were given credit for as many words as they had in an order that matched the original. For example, if "She played and played all day", was transcribed as "She played and gave it back", only the phrase "she played and" was credited. If subjects transcribed more than one version of a sentence, only the first version of their transcription was scored.

Meaning credit was given if their transcription captured the meaning encoded in the original stimuli, according to a taxonomy developed by Bloom and Lahey (1978). A specific set of rules was developed to make these decisions.

Analysis

The total number of sentences for which each group correctly identified the form features was tallied; a similar tally was made for the correct identification of the meaning features encoded in each stimuli (Bloom & Lahey, 1978). Form features involved morphemic units and content features involved semantic or meaning units. Subjects were grouped by the three linguistic models under investigation.

The Kruskal-Wallis non-parametric test (Rosner, 1986) revealed a significant difference for both the form ($p<.001$) and the meaning ($p<.001$) comparisons across the three groups (e.g., SEE, SE, PSE). Dunn's Multiple Comparison Procedure identified a significant effect for SEE subjects compared to PSE subjects with regard to form ($p<.01$) and meaning ($p<.01$) and for Signed English subjects compared to PSE subjects with regard to form ($p< .05$) and meaning ($p<.05$). SEE, SE, and PSE users were able to transcribe the form of the original utterances 60%, 49%, and 7%, respectively. They were able to capture the meaning of the original utterances 77%, 72%, and 37%, respectively.

Two additional inspections of the data were made. In the first, subjects' ability to transcribe the seven figurative expressions (FIG) found in the 25 sentences was charted. SEE 2 users accurately transcribed themselves signing FIG 23% of the time. Chi Square analysis revealed a significant difference between these percentages.

In the second inspection, a listing of all transcription for which no meaning credit was given were listed. These utterances are listed in Table 3. The author and GA agreed that the meaning of these transcriptions was altered from that of the original stimuli. Further, it is demonstrated that some PSE signers could not transcribe many of their signed sentences into grammatically-correct English sentences.

Discussion

Research has not been available that provides insight as to how completely a signer must encode a language for the characteristics of form and/or meaning to be comprehensible to the receiver of the intended message. The methodology for the present study is especially insightful because subjects were asked to identify these features given videotape (without audio) of *themselves* signing. This factor, coupled with the English language proficiency of each professional, should have made the task an easy one. However, both hypotheses were rejected. When given only visual cues to assist them, even the highest scoring group of subjects, (the SEE signers) could only transcribe the form of the 25 sentences with 69% accuracy and capture the original meaning of the stimuli with 77% accuracy.

Do the form-based systems make the grammar and syntax of English accessible to receivers? Do the meaning-based systems make the semantics encoded in utterances accessible to receivers? Some past research (Luetke-Stahlman, 1989) indicated that some features of English can be *signed* consistently and completely—we have

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Table 3

Transcription for which no meaning credit was given (CAPITAL LETTERS = target; lower case = subjects' transcription of self signing the target).

1. I'M ASKING WHAT YOU ARE DOING BECAUSE TIME IS FLEETING.
   I have a question because it will be time to leave soon. (J/SEE II)
   I'm asking what is the best time to go?
   I'm asking what you are doing because it is time to leave. (C/SEE II)
   I have a question because it will be time to leave soon. (JD/PSE)

4. HE EATS LIKE A HORSE, TOO.
   He eats like a rabbit. (J/Signed Engl)
   He eats the same horse, too. (MJ/SE)

5. SHE WORKS LIKE A DOG BUT IT DOESN'T MATTER TO THEM.
   She works really hard and fast it doesn't matter what the others do. (S/PSE)
   She works some dog but doesn't matter from them. (MJ/SE)

7. THEIR TOYS SEEM TO SCATTER THEMSELVES!
   It seems to be all over. (S/PSE)
   They're playing seems to _____ themselves. (SW/PSE)
   There are toy mirrors for them to look at themselves. (N/SEE II)
   There (sic) toys mixed up yourself. (SS/PSE)

8. BOTH OF US RAN THE MACHINE?
   Both of us doing it at the same time. (S/PSE)
   Both of us ran from the motor. (C/SEE II)
   Both of us match. (V/PSE)

9. THE RUN IN MY HOSE DOESN'T MATTER.
   The stripe doesn't matter, ignore it. (S/PSE)
   The doe tore my hose, doesn't matter. (MJ/CE)

10. WE DON'T CARE ABOUT BEING LEFT OUT.
    It doesn't matter, leave it alone. (S/PSE)
    We don't care alone. (J/PSE)
    We don't care about putting here. (SG/PSE)
    We don't care about being far apart. (SS/PSE)

11. SHOULD THESE BARRELS BE STACKED UP SO HIGH?
    The tower, don't you think it should be taller? (S/PSE)
    Shouldn't jelly barrels be stacked up so high. (C/SEE II)
    Should these bears be stacked up so high? (N/SEE II)
    Should barrel stackings high? (J/PSE)
    Should blocks piled high? (SG/PSE)

12. THE CARS IN THE LOT WERE LINED UP IN ROWS.
    The cars in blocks were line up in rows. (C/SEE II)
    The cars in parking spaced lined rows. (SG/PSE)

13. HIS NOSE WAS RUNNY BUT OTHERWISE HE WAS NEAT AS A PIN.
    His nose dripping clean clothes. (SG/PSE)
    His nose was running but otherwise he was nice. (MJ/SE)

(Table 3 cont'd.)

16. THEY GO A BELLY FULL?
They have a pregnant full. (J/PSE)
That a lot belly. (SG/PSE)
Get that bear full pig. (SS/PSE)
They are full fat. (SK/PSE)

17. HIS POTTY SCHEDULE IS IRREGULAR.
His course schedule is incorrect. (R/SEE I)
His potty lesson is irregular. (X/Signed Engl)

19. SHH, THE TODDLER IS IN HER CRIB.
Shh! The kids are in their cribs asleep. (J/PSE)
Shh! The tiger is in her crib. (N/SEE II)
The short child is in her bed. (SK/PSE)

20. WHAT HAS SHE BEEN DOING BY HERSELF?
What has she been doing about herself? (B/SEE)
What should doing by herself? (SG/PSE)
What are you doing by herself? (SS/PSE)

21. THE NURSE WHO FED THE PATIENT IS WASHING THE DISH.
The nurse gave the sick person for now wash the dishes. (SS/PSE)

22. THE QUEEN WHO KICKED THE CHAIR IS FEEDING THE BIRD.
The queen who kicked chair now eat bird. (J/PSE)

23. THE DOG IS BITING THE BABY THAT THE MAN IS HOLDING.
The dog is bugging the baby that the man is holding. (R/SEE)
The dog is bugging the baby tnat the man is holding. (V/PSE)
The dog is bothering the Baby that the man is holding. (B/SEE)
Man baby dog bark. (SG/PSE)
The dog is bugging the baby the man is holding. (JD/PSE)

24. THE DOCTOR IS PICKING UP THE GIRL WHO IS EATING THE BANANA.
The doctor is trying to find out who is eating the banana. (J/PSE)
Doctor picked up girl banana doctor. (SG/PSE)
The doctor is trying to find out who is eating the banana. (JD/PSE)

little data as to whether these features, even when signed, are *comprehensible*.

It would be valuable for professors in teacher training programs for the deaf, educators in school programs for deaf children, and parents to have more information as to how adults are able to sign English in a manner that provides students who are deaf and hard-of-hearing with exposure to the form and meaning of English.

Study 3*

Hearing Adults' Ability to Transcribe the Form and Meaning of Phrases Incorporating Homonyms Given Two Types of Models

It would probably not be difficult to convince experienced teachers of deaf and hard-of-hearing students that figurative language presents major comprehension difficulties in reading (King & Quigley, 1985).

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King and Quigley (1985), upon reviewing the literature with regard to research on figurative language and deafness, question:

> Whether the problem is with the deaf person's lack of the form in which the figurative concepts are expressed (i.e., the English language) or the lack of the underlying concepts [meanings] themselves (p.65).

Study 3 involved a specific type of figurative English: homonyms. There is a paucity of research specifically involving homonyms, their contribution to ready difficulty, or the ability of deaf and hard-of-hearing (D/HH) students to comprehend them. Beck, McKeown, and McCaslin (1983) reported that the difficulty of reading a particular word is influenced by the multiplicity of meanings, among other variables. Johnson, Moe, and Baumann (1983) found that approximately *two-thirds* of the words that appear most frequently in spoken and written English and in the reading materials of young students in the primary grades are homonyms. Unfortunately, MacGinite (1969) found that the scores of D/HH students were not affected by the contexts in which the target homonyms were placed. Finally, Paul and Gustafson (1991) suggested that children who are D/HH may not even realize that a word may have multiple meanings.

Homonyms can be signed in two ways: literally and conceptually. While these terms are used freely in the field of deaf education, definitions are not available in the literature. In this paper, signing literally is defined to mean that at least one sign is expressed for every word in the non-literal expression, following the syntax of English. For example, the expression, "I have a runny nose," would be signed with six handshapes: a sign for I, a sign for HAVE, a sign for A, a sign for RUN, a sign for the morpheme Y, and a sign for NOSE.

Seeing Essential English (SEE 1; Anthony, 1971) and Signing Exact English (SEE 2; Gustason, Pfetzing, & Zawolkow, 1973) are examples of literally signed English.

The meaning of homonyms can also be signed "conceptually". Pidgin Sign English is an example of a conceptually signed model of English. Conceptual signing is defined in this paper to mean a sign for each word, but more often using only those signs thought to be essential to transmit the essence of the message (Luetke-Stahlman, 1991). The expression "I have a runny nose" might be expressed with two signs: ME, followed by a four-hand classifier, turned palm-in tapping beneath the nose and moving downward. The sign RUN, typically signed to mean "physically running" would not be used. To summarize, homonyms would be signed in PSE based on the meaning of the phrase in which they are incorporated.

Study 3 was designed in an attempt to begin to address the questions raised by King and Quigley (1985) as to whether deaf students have difficulty with figurative English due to their lack of exposure to the English forms used to express non-literal words or phrases or because of the meaning encoded in the figurative expressions. An assumption made in the study was that the hearing adult subjects differ with regard to English language proficiency from the typical deaf student who does not possess an age-appropriate English language base such. Thus, the study addressed the following question:

Were subjects able to transcribe the *form*, and/or *meaning* of English when given a story incorporating phrases with homonyms in English presented in conceptual sign more successfully than when given a highly similar story incorporating the target homonyms presented in literal sign.

Method

Subjects

Thirty-eight hearing adults subjects were selected for the study after an initial telephone screening. All subjects had hearing acuity within normal limits, judged themselves as able to proficiently use and comprehend Pidgin Sign English (PSE), and had signed conceptually for a minimum of eight years (range: 8 to 37 years). Forty percent of the subjects were children of deaf adults. Subjects worked professionally as interpreters, relay operators, consultants in the field of deafness, and as teachers at the state residential school for the deaf. None of the subjects

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had studied SEE 2, used it themselves, or worked in situations where it was utilized as an accepted means of signed communication.

Procedure

A paragraph of 29 sentences (see Appendix A) from Gustason (1983) that used the word "run" in multiple ways (e.g., run off copies, run off at the mouth, run in stockings, etc.) was rewritten such that two highly similar versions were created. These versions, labeled 1 and 2, included the same grammatical structures, a highly comparable grand mean length utterance (1=334 total morphemes; 2=332 total morphemes, respectively), as well as highly similar meanings per utterance (based on a taxonomy from Bloom & Lahey, 1978).

The stories were signed by two professional interpreters[1]. The SEE 2 talent had been a teacher of the deaf for 10 years and freelanced as a literal interpreter. The PSE talent was a RID certified interpreter with over 25 years of experience. She had completed two different interpreter training programs and freelanced as a conceptual interpreter in the community.

Both interpreters were filmed in a university television studio such that lighting, talent, proximity to the camera, and clarity of the picture were all highly similar. The first author read the stories in short phrases such that the interpreters paused briefly after each phrase and utterance length was kept short. The SEE 2 version of the two stories were labeled "set A (1 and 2)" and the PSE version of the two stories were labeled "set B (1 and 2)".

Subjects were randomly assigned to one of four conditions after an initial telephone screening. These were A1/B2, A2/B1, B1/A2,B2/A1. The letter (A or B) in this code signified either SEE 2 or PSE, respectively; the number (1 or 2) designated one of the two versions of the stories. Six subjects were given languages and stories in the order of A1/B2, 10 were given A2/B1 languages/story order, 11 were given B1/A2 B2/A1.

At the data collection, subjects sat in a comfortable chair with a clear view of a television monitor, but were unable to see the written work of any other subject. No more than five subjects were tested in a group at one setting. A standard set of directions were read to the subjects. They were told that they would see one set of stimuli and then a second one. The subjects were *not* told that the information in both sets originated from the same paragraph and was highly similar; nor were they given a label (i.e., SEE 2 or PSE) for the methods of signing utilized in the videotapes.

Subjects were instructed to write to the best of their ability what they believed was being signed in the stories. Further, they were assured that the videotape of stimuli would be paused after each stimulus sentence and that viewing would not resume until everyone had indicated that they had sufficient time to write a transcription.

In viewing the stimuli, subjects were first shown a "warm-up" section before watching the complete first story. The tape was then rewound, and subjects saw the story again, phrase by phrase (giving each subject ample time to record their transcriptions). This process was repeated for the second story. The entire procedure took approximately one hour. During the entire procedure, subjects were instructed not to make any audible comments, so as not to distract or influence other subjects.

Coding

When all 38 subjects had viewed the stimuli each transcription was compared with the original text by the second author. Discrepancies *with regard to morphemes* transcribed were coded in two ways: (1) for the entire target sentence, and (2) for the morphemes denoting the homonyms. The rules that appear in Table 4 were utilized for the first form coding. Examples of scoring are included in this table as well. The rules that appear in Table 5 were utilized for the second form coding. Examples of scoring are again included.

[1]The term interpreter is used in this paper in a generic sense to include both the interpreter (i.e., the PSE talent) and the transliterator (i.e., the SEE 2 talent) that participated.

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Table 4

Rules to code form discrepancies with regard to morphemes for each sentence.

Rules:

1. A sentence was judged as correct if the subject transcribed the exact gram...atical form of the target sentence.
2. If the subject transcribed a derivation of a word *differently* than the original, he/she was given one morpheme credit for transcribing the same correct root word, but not credited for derivations of the root word. For example, if a subject wrote "running" instead of "runs", he/she was credited with one correct morpheme.

   If the subject did not transcribe the original root word, the root word and all missing morphemes were counted as errors. For example, if a subject transcribed "walking" for "running", or "walked" for "running," they would receive no morpheme credit for the word.
3. If a subject transcribed a sentence in a differing word order than the original sentence, credit was given only for the part of the sentence that matched the original word order. For example, if a subject had transcribed "she played and played all day" instead of "she played and worked," they would only be given morpheme credit for "she played and".
4. If a subject transcribed more than one version of a sentence, only the first variation was scored.

Examples of coding form for entire sentence. Italics indicate that credit was given when the transcription differed from the original text.

Credit given:

SUBJECTS' TRANSCRIPTION:	ORIGINAL TARGET:
PSE Bob finally had to leave *because* he was running late.	Bob finally had to leave *as* he was running late.
PSE *When* she was gone, I ran into Mike.	*While* she was gone, I ran into Mike.
SEE The gal who was running it gave me a bad time *about running late*.	The gal who was running it gave me a bad time *for being late*.

Credit not given:

SUBJECTS' TRANSCRIPTION:	ORIGINAL TARGET:
PSE By the time the cars got through the flood _ area... (-1)	By the time the cars got through a flood*ed* area...
PSE When I left for work today. (-1)	When I left for work this morning...
PSE It has *ran* fine since the tune up. (-1)	It *runs* fine since the tune up.

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Table 5

Rules to code form discrepancies for only those morphemes denoting the homonym.

Rules:

1. Given a listing of the target homonyms (see examples below) a sentence was judged as correct if the subject transcribed any grammatical form of the word run.
2. If the target included a verb particle, subjects were not given credit for the morphemes that they did not transcribe. For example, if the subject only transcribed "runs" for the original homonym, "runs fine," they would not be credited for the word "fine."
3. If a subject transcribed more than one version of a sentence, only the first variation was scored.

Target Homonyms

Original
We almost had a run in about it.

Coded only for
run in

Original
He ran on and on about it.

Coded only for
ran on

Examples of coding form for the morphemes denoting the homonyms. Italics indicates the eguality between the original test and subjects, transcriptions.

Credit Given:

SUBJECTS' TRANSCRIPTION:	ORIGINAL TARGET:
PSE *Runs fine* since tune up.	It *runs fine* since the tune up.
SEE She told me if I'd stop *running off* at the mouth I'd _____ more.	She told me that if I would stop *running off* at the mouth she might believe me more.
SEE I did *run over* something too.	I did *run over* some old glass, too.

Credit Not Given:

SUBJECTS' TRANSCRIPTION:	ORIGINAL TARGET:
PSE My car *is* fine...(-1)	It *runs* fine since the tune up.
PSE I was driving through deep water and *ran* out of gas. (-1)	By the time the vehicles got through a flooded area, I *had run* out of gas.
PSE I was really nervous about *accumulating* a lot of *tickets*. (-2)	I'm really nervous about *running up* a lot of *tickets*.

Table 6

Rules and examples when transcripts were compared to original meanings using Bloom & Lahey (1978).

Rules:

1. Full meaning credit was given to all sentences for which full form credit was given.
2. Meaning credit was given only once per sentence for those contents that appeared more than once in a sentence unless two different verb tenses or two different actions were involved. For example, in the sentence, "He ran and ran," the semantic contents of ACTION and COORDINATION would have been included on the key. In the sentence "He ran and jumped," the semantic contents of ACTION, COORDINATION, and ACTION would have been included.

Examples of coding meaning based on Bloom & Lahey's taxonomy. Italics indicate the transcribed words, as compared to the original test, that caused a judged discrepancy in meaning to occur.

Credit Given:

SUBJECTS' TRANSCRIPTION:	**ORIGINAL TARGET:**
PSE So I took off and changed	So I ran off to change [Caus,Time,Act,Act]
PSE While I took off, Bob met Tom.	While I was gone, Bob ran into Tom. [Time,Act,Time,Time,Act,Dat]
PSE We almost had a fight about it.	We almost had a run in about it. [Quan,Attrib,Act,Time]

No Credit Given:

SUBJECTS' TRANSCRIPTION:	**ORIGINAL TARGET:**
PSE He told *me* that there would be a run-off election for the new president of the class.	He told *him* there was going to be a run off election for the new president of his class. (-meaning)
PSE Anyway, Tom *started* to criticize his opponents.	Anyway, Tom was *starting* to run down his opponents. (-time) [Act,Time,Act,Poss]
SEE I am really worried about a lot of tickets.	I'm really worried about *running up* a lot of tickets. (-Act) [State,Attrib,Act,Time, Quan]

Table 7

Examples of coding for meaning for which a panel of judges was used.

Credit Given:

SUBJECTS' TRANSCRIPTION:	ORIGINAL TARGET:
He told me if I would stop running off at the mouth, he might tell me more.	He told me that if I would stop running off at the mouth he might tell me more.
I told her I almost *hit* a tree *on my way* there.	I told her I had almost *run into* a tree *in my hurry to get* there.
Anyway, Tom *started* to *criticize* his opponent.	Anyway, Tom *was starting* to *run down* his opponent.

No Credit Given:

SUBJECTS' TRANSCRIPTION:	ORIGINAL TARGET:
Bob *said* after he ran off some copies he *had* to run off with his wife.	Bob *told Sue* that after he ran off some copies *he was going* to run off with his wife.
He told me if I would stop running off at the mouth, he *would* tell me more.	He told me that if I would stop running off at the mouth he *might* tell me more.
I was really worried about *getting ticketed for a large amount of money*.	I'm really worried about *running up a lot of tickets*.

After the initial coding was completed by the second author, a graduate student in deaf education coded the form of approximately 26% of the samples. Interjudge reliability (IJR) for the form coding was 99%. The second author coded 25% of the morphemes coded for the second form analysis. IJR was 99%. In both cases, the second coder's opinion was utilized in the data submitted for analysis.

Discrepancies *with regard to meaning* for the entire sentence were noted in two ways. First, the second author compared the transcribed samples to the meanings embedded in the original stimulus based on a taxonomy from Bloom and Lahey (1978). The rules that appear in Table 6 were utilized for this procedure. Examples of scoring are included in this table as well. A "1" was encoded when compared to the original sentence; a "0" was assigned to each sentence that completely matched the meaning encoded when compared to the original sentence; a "0" was assigned when the meaning transcribed in a sentence did not match the original content.

Twenty-five percent of these were also coded by the first author. Interjudge reliability for content was 97%.

All sentences that did not receive semantic credit utilizing the Bloom and Lahey taxonomy were read to a panel of five judges. Judges were senior master students in deaf education and speech pathology. Both authors also participated. Examples of scoring are included in Table 7. A "1" was assigned when the meaning transcribed in a sentence was judged not to have matched the original content.

The total number of sentences that matched the meaning of the original sentence according to (1) Bloom and Lahey's taxonomy, and (2) the panel of judges were recorded for each subject and written on the transcript of their work.

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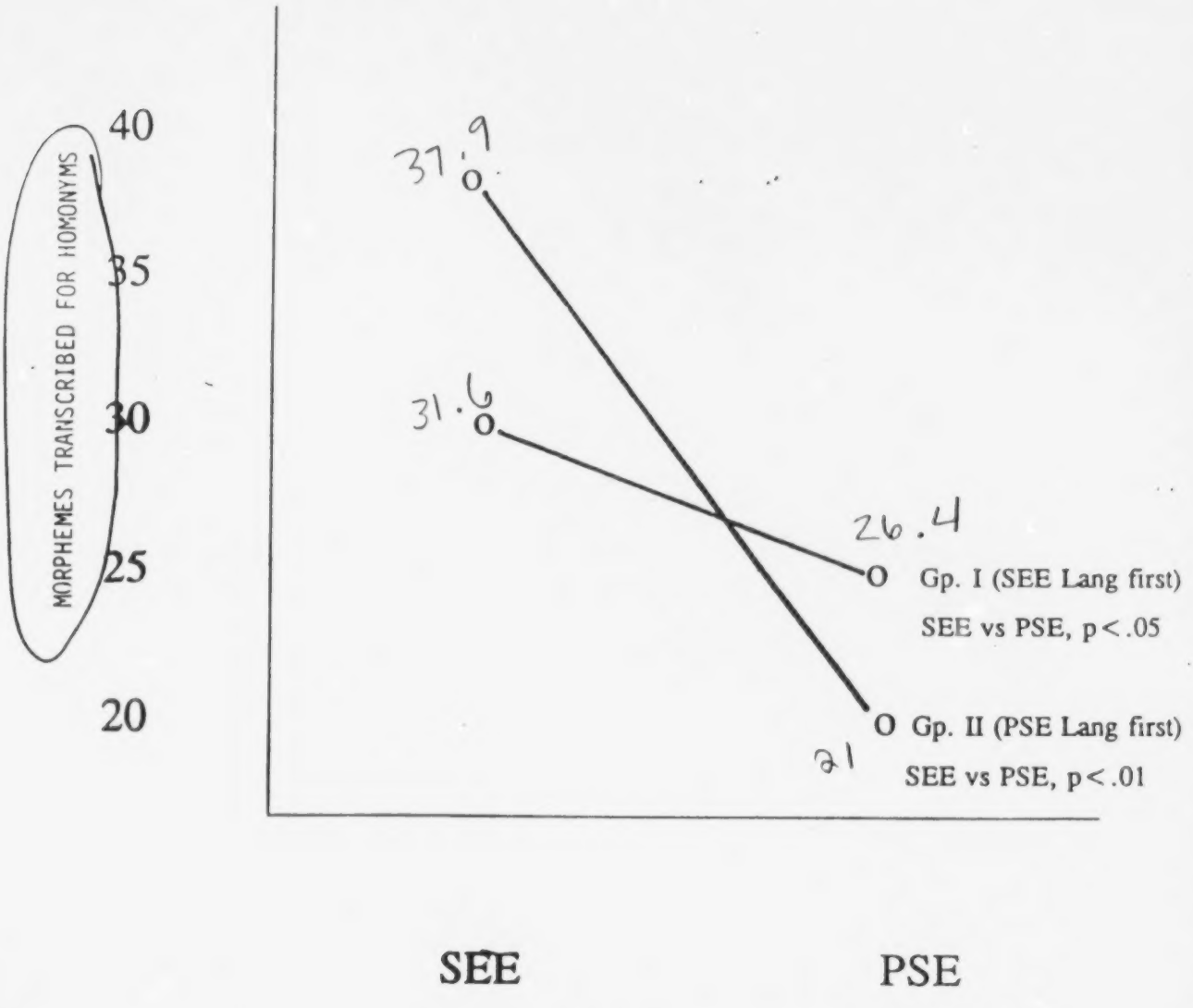
Figure 3. Form: Significant interaction for form for time and inputs when only the words in the sentence denoting the homonym were analyzed.



Finally, a tally was made of subject's performance on each of the expressions which included a target homonym. Percentages for correctness of transcription with regard to form compared to the original stimuli were figured.

Analysis and Results

An analysis of covariance with repeated measures design was used to determine if there was a significant difference in the written transcriptions from the subjects that could be attributed to the input models (i.e., PSE or SEE 2) utilized. For this analysis, data was collapsed into two groups, Group I and Group II. This categorization is depicted in Figure 1. The variable of stories (1 or 2) was balanced in the design such that if there was any difference between the form and content of the stories, discrepancies were controlled.

Figure 1

Diagram of experimental design.

Group	N	Time 1	Time 2
I	6	SEE Story 1	PSE Story 2
I	10	SEE Story 2	PSE Story 1
II	11	PSE Story 1	SEE Story 2
II	11	PSE Story 2	SEE Story 1

Group I received story A1 and then story B2 or story A2 and then story B1.

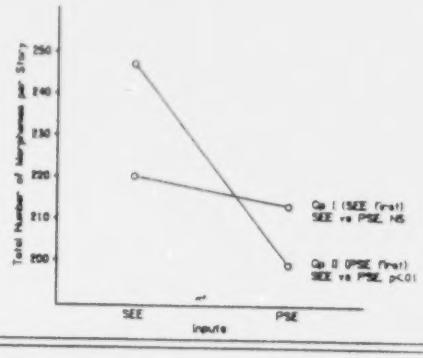
Group II received story B1 and then story A2 or story B2 and then story A1.

With regard to the first form analysis (2 inputs X 2 orders), a significant interaction was found (i.e., inputs: SEE 2, PSE) ($p<.001$) as well as a significant main effect (i.e., order; $p<.001$). These results are graphed in Figure 2.

Follow-up using the Newman-Keuls procedure indicated that subjects were able to capture more of the form of the original text after viewing the story signed in SEE 2. Group 2, who watched

Figure 2

Form: Significant interaction for form between input and time when the morphemes for the entire sentence were analyzed.

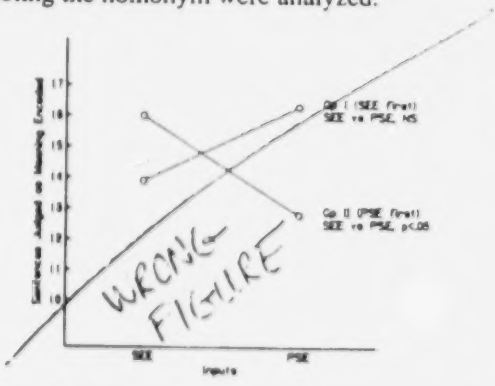


PSE and then SEE 2, demonstrated a significant improvement in their ability to transcribe form ($p<.01$).

The results of the second form analysis mirrored that of the first. In this analysis (2 inputs X 2 orders) only the morphemes denoting the homonym were analyzed. There was a significant interaction (i.e., order; $p<.001$) as well as a significant main effect between inputs ($p<.001$). These results appear in Figure 3.

Figure 3

Form: Significant interaction for form for time and inputs when only the words in the sentence denoting the homonym were analyzed.



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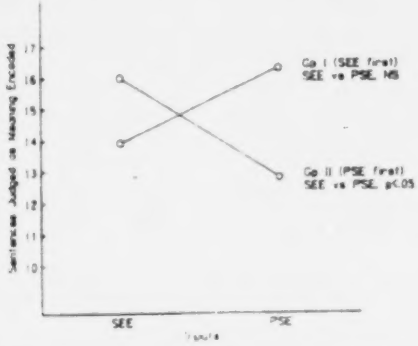
Follow-up using the Newman-Kuels procedure revealed that Group I, which watched the SEE 2 version and then the PSE version, was able to transcribe the form of the homonyms via SEE 2 version and then the PSE version, was able to transcribe the form of the homonyms via SEE 2 more accurately than when watching PSE ($p<.05$). Likewise Group 2, which watched PSE and then SEE 2, was able to transcribe the form of the homonyms after watching the story signed in SEE 2 more accurately than via PSE ($p<.01$).

The analysis of meaning (s inputs X 2 orders) utilized the decision from the panel who judged subject's transcriptions of those sentences which had not been credited using the Bloom and Lahey taxonomy. There was a significant interaction effect (i.e., order $p<.002$). Group means indicate that subjects were better able to capture the meaning of the stories in their transcriptions regardless of the input of the second story. These results are graphed in Figure 4.

Figure 4

Meaning. Significant interaction for meaning for time when meaning was judged by a panel.



Follow-up using the Newman-Kuels procedure revealed that Group 2, which watched PSE first, encoded more meaning in their transcriptions after viewing the SEE 2 versions of the story.

Discussion

In Study 3, 38 hearing adults, proficient in their use of Pidgin Sign English (PSE) yet untrained and inexperienced in the use of a literal sign input, transcribed both a story signed in PSE and a story signed in Signing Exact English (SEE 2). The stories were written to include many uses of the homonym "run".

Analysis involving both a liberal and a restricted coding scheme demonstrated that subjects were more successful at transcribing the original syntax of the stories after viewing SEE 2 versions of the text than they were after viewing PSE versions of highly similar stories. This finding is of interest because, although the adults had a first language base in English, they were not users or proponents of SEE 2. However, the finding is not surprising as PSE evolved as a "contact language" and was not intended for educational use or to teach English.

While there are socially valid reasons why parents and educators might strive to learn PSE, its use in classrooms where the goal is the learning of English merits reevaluation. Subjects in the Study 3 could not retrieve homonyms interpreted in PSE. Surprisingly, it was not the model of PSE, but practice with the story that provided an advantage in allowing the subjects to understand the meaning of the stories.

Subjects in Study 3 were proficient users of both (spoken and written) English and of PSE. These adults might have been able to access the *form* of English from SEE because of their proficiency in (spoken and written) English. Most deaf and hard-of-hearing children would not have this advantage (Quigley & Paul, 1984; King & Quigley, 1985). Revisiting the query asked by King and Quigley (1985) as to whether the problem for deaf children when reading figurative English is due to experience with the grammar of figurative expressions or with the underlying meanings of the expressions, the results of Study 3 suggest the access to form through a literal sign system seems to aid experience with the form of at least one type of figurative English (homonyms). Repetition of the stories seemed to aid comprehension of meaning.

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Research is needed which investigates the access PSE provides subjects to other types of figurative English. Given the prevalence of figurative English and the importance of comprehending it to unlock the reading process (Nippold, 1985), the challenge of providing deaf children with the skills to comprehend non-literal expressions is one that must be addressed by researchers, educators, and parents.

Future research might address at least three issues: (1) Although the subjects utilized in the present study were proficient in PSE, they were not reliant on sign in daily communicative exchanges. A similar study might be conducted utilizing hard-of-hearing or deaf subjects to see if the findings presented here are robust. (2) Proficient users of SEE 2 should be tested in a similar manner to confirm that the form of English is significantly more accessible via SEE 2 than through PSE. (3) Additional types of figurative English should be studied. The authors welcome future research along these lines of inquiry.

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Appendix

Example of one version of the stories used in the study

When I left for work today, I had no trouble getting my van started—it runs fine since the tune up—but then I ran into trouble with the runoffs from yesterday's rain. Would you believe that by the time the other vehicles got through a flooded area, I had run out of gas. Then I was in such a hurry to get to an inservice that I ran a red light got ticketed. I'm really nervous about running up a lot of tickets and getting a poor driving record. When I finally arrived at the workshop, the guy who was running it gave me a hard time for being late. I really was upset and told him I had almost run into a child in my hurry to get there, and did run over some old glass, and with such a run of bad luck he was lucky to see me there at all. By the time I got home I was tired and frustrated, and woke up this morning with a runny nose. My eyes are running, too. At the office, Ann told Bill that after she finished running off some copies, she was going to turn off with her husband. She told me that if I would stop running off at the mouth so much, she might believe me more. We almost had a run in about it, but then she noticed she had a run in her stocking and her colors had run so she ran off to change. While she was gone I ran into Mike and he told me there was going to be a run off election for the vice-president of his club. Understandably, he was really excited and ran on and on about it. I finally had to leave as I was running late with my schedule and had to run down several people before he could go. Anyway, Mike was starting to run down his opposition, and I didn't like that.

PREVENTING SCHOOL FAILURE

Parent Advocacy for the Nonexclusion of Students Who Are Deaf or Hard of Hearing

BARBARA LUETKE-STAHLMAN and P. LYNN HAYES

The American Society of Deaf Children (ASDC), a national organization of parents of children who are deaf or hard of hearing (D/HH), is working to ensure that the children they represent receive an appropriate education. Your child as well as others in your community will benefit from your involvement in parent advocacy.

A U.S. Department of Education policy statement published in the Federal Register in November 1992 stated that school personnel were to act with caution before placing children who were D/HH with hearing peers. In the "notice of policy guidance," the education secretary stated that many schools must interpret the "least restrictive environment" (LRE) clause of the Individuals with Disabilities Education Act (IDEA) to place more emphasis on an "appropriate education." The notice of policy further clarified that any setting, including the general classroom or school environment, that prevents a child who is deaf from receiving an appropriate education that meets his or her educational and social needs is *not* the LRE for that child. Yet approximately 79% of students who are D/HH are currently "included" or educated in public school settings (Eleventh Annual Report to Congress on the Implementation of the Education of the Handicapped Act, 1989).

The popularity of the "full-inclusion" model, in which all students attend their home schools with their age and grade-age peers, has made it all the more important that parents advocate to ensure that the following sequence occurs: students who are D/HH are appropriately assessed, their needs are adequately documented, the required supports and services are provided, and an appropriate placement is recommended based on those needs. This sequence, not one that begins with discussion of placement, ensures an *appropriate* education. Parents must also be sensitive to the demands the school district faces when they request placement in the "home school" or away from other children who are deaf or hard of hearing. It is unlawful to enroll children at a site where their needs cannot be met. The recommendations in Table 1 provide an appropriate program for D/HH students.

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TABLE 1
Finding an Appropriate Program for D/HH Students: Recommendations and Family Actions

Recommendation	Family Action
1. Students who are deaf or hard of hearing (D/HH) are entitled to appropriate screening and assessment of their linguistic, academic, social, visual, and auditory capabilities at the earliest possible age and thereafter at least every 3 years (e.g., IDEA). This assessment should be conducted by a a professional trained in deafness and able to communicate proficiently in the student's preferred language or system of communication.	If the recommendation cannot be met, advocate that the child be assessed by a teacher of the deaf who is a proficient signer, university deaf education faculty, assessment personnel at the state residential school, or a private, capable agency (e.g., Boys Town National Research Hospital in Omaha, NE). The cost involved will be worthwhile considering the alternative: a child tested by a nonsigning psychologist or "interpreting" done by an incompetent paraprofessional.
2. Placement decisions with regard to children who are D/HH should be made based on assessment as well as parent preference. *All* options for placement (e.g., residential, class within a class, resource, contained, etc.) should be explained to parents without bias or reference to budgetary constraints. All considered options should be listed on the IEP and the reasons for rejection of placement recorded there as well.	Strong advocacy by parents is needed to make sure that the assessed needs of the child determine supports and services—and then the placement decision. It is unlawful to place children in programs where their assessed needed supports and services cannot be provided. Parents need to collaborate as team members to ensure an appropriate placement.
3. Educational and social programming should be provided to infants and toddlers who are D/HH as well as to those children who are 3–21 years of age. Every attempt should be made to group children of similar ages who are D/HH as long as it is educationally appropriate to do so.	Parents can advocate that young deaf children especially need to be with those with whom they can easily communicate in play. In addition to contained, segregated classes, children who are siblings of deaf children or children of deaf parents can be enrolled in the same classes as the deaf child. Parents can help teach functional sign systematically to all children and adults at school.
4. The student's Individualized Family Service Plan (IFSP) or Individualized Educational Plan (IEP) should include consideration of the following content: (a) assessed identification of the primary communication composite used by the child; (b) degree and nature of the hearing loss; (c) potential use of residual hearing and appropriate assistive listening device availability and maintenance; (d) academic level and learning style; (e) linguistic, social, emotional, and academic needs; (f) placement preference of the family; (g) individual motivation; and (h) family and community supports.	Parents can advocate assessed identification of: (a) the primary method of communication used by the child; (b) the degree and nature of the hearing loss (see 1); (c) academic level and learning style (see 1); (d) linguistic, social, emotional, and academic needs (see 1). Parents can further advocate that a knowledgeable speech and language pathologist or an audiologist visit the program on a regular basis and/or contract with the state residential school. All placement options (e.g., residential school, cooperative program, contained classroom, itinerant services, etc.), portrayed without philosophical or financial bias must be explained to parents, and both staff and parents shold visit these settings. Parents should request contact names and addresses of the state commission of D/HH, state National Association of the Deaf (NAD) group, etc., to learn about deaf community members and organizations.
5. All school activities should be accessible to children and adults who are D/HH. Before- and after-school activities, all instruction, and recess and lunch periods should be staffed with an educationally trained and proficient interpreter. Time spent riding the bus should be staffed with someone who possesses at least basic signing skills. School events, attended by parents who are D/HH, should be interpreted in the dominant language or system of the consumer.	Parents can advocate that educational interpreters be trained, monitored, and evaluated. They might ask that assessment of the student's communication be done to determine a dominant language or system (see 1).
6. The school should have at least one TDD, a captioner on all televisions used by the students and staff who are D/HH, and visible fire and fire-code alarms. School announcements should be interpreted. Visual or kinesthetic means (e.g., flashing lights, a light touch on the shoulder, etc.) should be used to gain attention rather than vocal means in classrooms where students who are D/HH are enrolled.	Parents and relatives can work with local clubs (e.g., Sertoma, Lions, etc.), the state commission of D/HH, and/or the telephone company to provide this equipment, but it is legally the responsibility of the schools to supply it. Parents can ask that school personnel be trained to use visual attention-getting mannerisms (e.g., light flicking instead of voiced attention-getting behaviors). Inviting D/HH role models to demonstrate these at school might also be helpful.

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TABLE 1 *(Continued)*

Recommendation	Family Action
7. Every specialist available to other children (e.g., OT, PT, psychologist, guidance counselor, etc.) should be afforded children who are D/HH. In addition, children who are D/HH might need the services of an audiologist, oral or manual interpreter, notetaker, tutor, etc.	Parents can suggest that needed professionals employed by schools could be contracted from hospitals or private and public agencies. Educational interpreters, notetakers, and tutors could be trained by schools and paid an appropriate rate. Older students or community volunteers might serve as notetakers and tutors. For older children, parents could request that peer tutors be used.
8. Students who are D/HH need to attend at least some classes or activities each day with other children who are D/HH. Attempts should be made to group these students for reading groups, recess, lunch, etc. so that they can freely communicate and socialize together.	Parents can remind team members that children who rely on a visual means of communication can be severely isolated at school. They might advocate that all hearing adults and students receive regular daily sign instruction and that children of deaf parents, siblings of deaf children, and friends who have learned to sign be grouped with students who are D/HH.
9. Deaf children should be afforded regular opportunities at a school to socialize with adults who are also D/HH. These role models might be teachers, paraprofessionals, or volunteers that teach or tutor on a weekly basis.	Parents can assist their team by contacting their state commission for the D/HH, the state NAD, and state chapters of other national groups to provide these services in schools. State teacher training programs, educational resource centers (see Appendix A), Gallaudet Regional Centers (see Appendix B), and state schools for the deaf are additional sources of assistance.
10. The school library should have several TDDs available for checkout, subscribe to journals and newspapers related to deaf culture (e.g., *The Silent News*, *The NAD Broadcaster*, *The Perspectives*, etc.), and add to the collection of books about deafness annually. For children, consider purchasing *Deaf Life* and the *World Around You*, both available from the Gallaudet University Press (see Appendix C).	Parents can advocate that the school librarian's role be expanded to assist with these recommendations. School fund raisers supported by all families could purchase needed equipment, materials, and resources. Service clubs or families of children who are D/HH could be asked to purchase needed items or match school funds.
11. Students who are D/HH and enrolled in regular education should be placed in classes with general education teachers who: (a) are facilitative with regard to socialization opportunities, (b) use activities such as cooperative learning, team teaching, peer coaching, peer teaching, (c) sign to some degree and are willing to take sign classes on a regular basis, (d) work well with educational interpreters, (e) are respectful of deaf culture and attempt to integrate deaf values, history, heros, etc. into lessons, (f) accept the student as one of the class, and (g) are able to grade the student with regard to effort and ability.	Parents can advocate that administrative support and evaluations are needed to ensure that these recommendations are carried out. They might assist in locating funding for general education teachers to attend inservices and conferences that will broaden their insights of deafness. Monies may be available through the Gallaudet Regional Center in the area (see 30) or through their local parent-teacher organization.
12. Hearing adults working and learning in the regular educational classrooms in which students who are D/HH are enrolled should be able to sign common phrases that are needed in typical conversations and during instruction (e.g., "Get your reading book out, please." "Can I play four square with you at recess?"). Daily sign classes should be provided to the class by the educational interpreter who works with the student who is D/HH or by a person knowledgeable in signed communication.	Parents can advocate that other team members help identify commonly occurring classroom conversational and instructional phrases through observation or audiotaping of typical routines (e.g., What are you having for lunch? Will you sit by me?). These phrases can be signed on videotape and distributed to teachers and students so that they learn to sign functional phrases.
13. Sign classes should be offered (a) during the school day and (b) in the afternoon or evening for adults and children who wish to develop and expand their signing abilities.	Parents can advocate that administrators financially support a free, weekly sign class taught by interpreters, teachers, and/or parents. Parental signing ability and attendance at sign classes could be listed as a goal or objective on IFSPs and IEPs.

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TABLE 1 *(Continued)*

Recommendation	Family Action
14. The administration should pick one type of signed communication (i.e., American Sign Language [ASL] or Pidgin Sign Language [PSL]) to be used at school with children whose parents do not proficiently sign in a particular manner. Several copies of a sign dictionary of this language or system should be available in each classroom used by a student who is D/HH and in the library. Each educational interpreter should have his/her own copy, purchased by the school district.	Parents, administrators, and teachers of the deaf should work together to clarify their goals with regard to English language at school. A method of signing that is advantageous for teaching these goals should be selected (e.g., American Sign Language, Signing Exact English 2). Parents can approach service clubs to purchase sign dictionaries for the library, parents, and/or interpreters.
15. Administrators and regular education teachers should understand that students who do not require sign in informal situations (e.g., on the playground) may need the support services of an oral interpreter in the classroom, or one that uses Cued Speech or simultaneous communication (e.g., Signing Exact English, Signed English).	Parents can advocate that the training of interpreters be financed by schools, cooperatives, colleges, or universities to expand their knowledge of oral interpreting or Cued Speech, SEE, etc. They can further advocate that assessment be conducted to determine whether a student needs an interpreter in classroom contexts (see 1).
16. Students who are D/HH should be seen daily by a teacher of the deaf who is appropriately certified. Visits should include time to teach, tutor, or counsel each child, as well as to observe each student in every regular education classroom or activity in which he or she participates.	Parents need to be aware that currently, teachers of the deaf rarely observe or counsel the children who are D/HH on their caseload. In some locations, the teacher of the deaf sees the child only every 2 weeks. Parental and administrative support is needed to creatively alter this practice. Time should be built into the schedules of itinerant and resource teachers to observe, team teach, consult, and assess school activities.
17. Seating arrangements in groups in which some members are D/HH should be visually organized. For example, desks and/or chairs might be arranged in a semicircle, adults and students should not talk while facing the board, lighting should be appropriate (bright lights not shining in the eyes of students who are D/HH, etc.).	Parents can help to monitor seating arrangements, teacher behavior, and environmental needs (e.g., lighting and carpeting) and by arranging inservice in this area by Gallaudet Regional Centers, state adult deaf groups, or university training programs in deaf education.
18. Rooms in which children who are D/HH are instructed should be carpeted, have heavy drapes and blinds on the windows, and have sound-absorbent wall treatments. Visual safety devices should be in all classrooms.	Parents can advocate that administrators set long- and short-term goals to provide appropriate environmental conditions for children who are D/HH. Collaboration with service clubs may be a source of financial assistance.
19. Every student who is D/HH and can benefit should have access to an FM system in the classroom and for auditorium programs. These systems should be no more than 5 years old and in good condition.	Parents can advocate that each child be assessed by a knowledgeable audiologist or experienced speech and language pathologist to determine the benefit of assistive listening devices (e.g., hearing aids, FM systems, cochlear implant, etc.).
20. Personnel who work with the student who is D/HH, in addition to the teacher of the deaf (e.g., speech and language pathologist, occupational therapist, counselor, physical education teacher, etc.), should receive annual inservice that specifically relates to issues in deaf education.	See 11 above.
21. Supervisors of teachers of the deaf should sign to some degree, have training in deaf education, receive regular inservice on issues specifically related to deafness, and be available to observe and consult as needed.	See 11 above. Parents can advocate that administrators recognize the unique aspects of deafness and can support the hiring of knowledgeable supervisors who have the qualifications mentioned in this recommendation.
22. A speech and language pathologist with training and experience in working with children who are D/HH should be available to each student who has speech and audition goals written in the IFSP or IEP. This professional should regularly observe each child in the regular and special education classrooms in which he or she is enrolled and participate in staffings. Either the school audiologist or the speech and language pathologist should be responsible for the assessment, writing, and monitoring of speech, and possibly auditory training goals if they are included on the student's IFSP or IEP.	Parents can advocate that the program contract with a knowledgeable speech and language pathologist or an audiologist who can visit the program on a regular basis or contract with the state residential school. Parents and school districts might wish to provide training and deaf education to professionals in private practice.

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Table 1 *(Continued)*

Recommendation	Family Action
23. An audiologist with training and experience in working with children who are D/HH should be available to each student who requires an evaluation for an assistive listening device or who already uses one. These might include but are not limited to personal hearing aid(s), an FM unit, or a cochlear implant. This professional should regularly observe each child in the regular and special education classrooms in which he or she is enrolled and participate in staffings. Either the school audiologist or the speech and language pathologist should be responsible for the assessment, writing, and monitoring of auditory training goals if they are included on the student's IFSP or IEP.	See 22.
24. Interpreters should be skilled (and preferably certified) in the language or system used in the school program. If this certification is not available at the state level, administrators should work to have it included. Interpreter pay should be linked to certification level. Interpreters should be registered with the Commission on Deaf and Hard of Hearing in their state.	Parents need to assist in educating state officials on issues related to educational interpreting.
25. Every attempt will be made to secure captioned films and videotapes when these are shown to classes, beginning with the kindergarten level.	Parents can suggest that the role of the librarian could be expanded to meet this need. See 30 if resources are needed.
26. Professionals working with students who are D/HH should be mindful of the strength of these students in learning through the visual mode and the needs of the vast majority of students who are D/HH with regard to English language acquisition, reading, and writing. Professionals will need to communicate clearly their goals for lessons and activities so that students who are D/HH can obtain competencies desired in life, using curricular adaptations as needed.	Parents can advocate that advisory board members (see 29) visit the school and evaluate the opportunities available to students who are D/HH to learn visually and to obtain needed life competencies.
27. A printed school policy related to deaf education, which has been democratically developed with consultation from adults who are D/HH and teachers of the deaf, should be available to parents, school staff, and community deaf adults. Policies regarding the roles and responsibilities of teachers of the deaf and educational interpreters, choice of sign language or system used, etc. are written and available.	Parents can request that a school policy be written within a specified time. The policy of other school districts or cooperatives could be used as models. The Advisory Board (see 29) could undertake this task. Staff could write and review their own job descriptions and share them with other programs.
28. Deaf Awareness Week should be celebrated in September of each year just as Black History or Better Speech and Hearing month are celebrated. Activities might include a signing bee (like a spelling bee), the study of famous deaf adults in history, theatrical presentations in sign, and learning about deafness.	Parents can write the NAD, which has an inexpensive kit available. Goals could be set and evaluated for expansion annually. Gallaudet Regional Centers and other resources for inservice could be contacted (see 30).
29. Each cooperative or district that educates students who are deaf and hard of hearing should have an advisory board of which community members who are deaf or hard of hearing themselves, parents, teachers, and interpreters are members.	The state commission for the D/HH, the state NAD, and state chapters of other national groups could be contacted by parents to provide these services in schools (see 30).
30. Administrators and teachers of the deaf may wish to contact national sources for current information and financial assistance with inservices for topics listed above.	Parents can contact professionals at university deaf education training programs in their state and a variety of national groups. See Appendices A, B, C, and D.

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Special Education Report. (1992, November). *ED wants schools to check deaf students' placement, 18*(23). Alexandria, VA: Capital Publishers.

APPENDIX A
Educational Resource Centers on Deafness

American School for the Deaf
139 North Main Street
West Hartford, CT 06107
Christine E. Tabbert, Coordinator
Winfield McChord, Jr.
Executive Director

Atlanta Area School for the Deaf
890 N. Indian Creek Drive
Clarkston, GA 30021
Gayle Wooten, Coordinator
Cynthia Ashby, Superintendent

Iowa School for the Deaf
1600 South Highway 275
Council Bluffs, IA 51503-7898

Louisiana School for the Deaf
P.O. Box 3074
Baton Rouge, LA 70821
Diane Bordelon, Coordinator
John Radvany, Superintendent

California School for the Deaf
39350 Gallaudet Drive
Fremont, CA 94538
Diane Morton, Coordinator
Henry Klopping, Superintendent

APPENDIX C
Newspapers and Magazines

Deaf Life
c/o MSM Production, Ltd.
Box 23380
Rochester, NY

World Around You (Children and Youth)
Pre-College Programs
Gallaudet University
800 Florida Ave. NE
Washington, DC 20002
(Teacher's Editions are available)

Deaf USA
Eye-Festival Communications, Inc.
Studio City, CA 91604

Deaf Sports Review
American Athletic Association of the Deaf
3607 Washington Blvd., Suite 4
Ogden, Utah 84403-1737

Silent News
P.O. Box 23330
Rochester, NY 14692-3330

The Endeavor
Published by the American Society for Deaf Children
814 Thayer Avenue
Silver Spring, MD 20910

The Broadcaster
National Association of the Deaf
814 Thayer Avenue
Silver Spring, MD 20910-4500

APPENDIX B
Gallaudet Regional Centers

Eastfield College
3737 Motley Drive
Mesquite, TX 75150
214-324-7053T/214-324-7065V

Flagler College
P.O. Box 1027
St. Augustine, FL 32085
Arlie Terell-Grassman
904-829-2424T/904 829-6481 x216V

Gallaudet University
202-651-5351

Johnson County Community College
12345 College
Overland Park, KS 66210
Kim Krebs
913-469-3872/913-469-8500 Main

Kapioniani Community College
4303 Diamond Head
Honolulu, HI 96816
James Fernandes
808-734-9210

Northern Essex Community College
100 Elliot
Haverhill, MA 01830
Kathy Vessy
508-374-3701

Ohlone College
43600 Mission Blvd.
Fremont, CA 94539
Michele Berke
510-659-6050T/510-659-6267

APPENDIX D
Parent Support Services

Center for Bicultural Studies, Inc.
5506 Kenilworth Avenue, Suite 100
Riverdale, MD 20737

Hear Now
4001 S. Magnolia Way, Suite 100
Denver, CO 80237

National Black Deaf Advocates
c/o NTID/RIT, LBJ-1272
One Lomb Memorial Drive
Rochester, NY 74623

National Information Center for Children and Youth with Disabilities
P.O. Box 1492
Washington, DC 20013

National Institute on Deafness and Other Communication Disorders Clearinghouse
P.O. Box 3777
Washington, DC 20013-777

Parents Helping Parents
47 Maro Drive
San Jose, CA 95127

Parent to Parent
301 S. Franklin Street, Room 1608
Virginia Commonwealth University
Box 3020
Richmond, VA 23284

Rainbow Alliance of the Deaf
8507 Greenwood Ave., Apt. 2
Takoma Park, MD 20912

Tele-Consumer Hotline
1910 K St., NW
Suite 610
Washington, DC 20006

The Ear Foundation
2000 Church St.
Box 111
Nashville, TN 37236

The SEE Center for the Advancement of Deaf Children
P.O. Box 1181
Los Alamitos, CA 90720

Tripod (Resources for Parents)
2901 N. Keystone Street
Burbank, CA 91504
800-352-8888

World Recreation Association of the Deaf, Inc./USA
P.O. Box 3211
Quartz Hill, CA 93586

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Deaf Culture for Hearing Families with Deaf or Hard of Hearing Children

Barbara Luetke-Stahlman
University of Kansas Medical Center

Deaf Culture at Home

Many hearing parents with children who are deaf or hard of hearing adopt a bilingual/bicultural perspective in raising their children. This means that they set goals to facilitate their children's acquisition of both English and American Sign Language and provide opportunities for their children to participate in activities sponsored by both hearing and deaf groups. The situation for these parents is similar to that of parents who are raising children born in another country, raising children who are gay, or raising children in families whose religious orientation is different from that of mainstream America. These parents recognize that they will need to provide special opportunities for their children so that their family can learn to utilize more than one language or mode of communication and respect more than one culture.

Many parents who are motivated to provide a bilingual/bicultural experience for their child find it difficult to do so. Problems may occur, for instance, in families with two parents working outside the home, single parent families, and families living in rural areas. As administrators, teachers, deaf adults, and parents, we must join together and find ways to assist families who have chosen a bilingual/bicultural perspective in raising their children. One suggestion is to encourage families to subscribe to publications produced by deaf people, such as the *DCARA News*, the *Silent News*, the *NAD Broadcaster* and the *Deaf American* (published by the National Association of the Deaf), and the annual Deaf American Monograph series on deafness and related issues.

These publications present a wide range of views on a variety of issues. They allow hearing parents to experience the "deaf perspective" on social, political, economic, and educational concerns. The articles they contain may be serious or humorous and are usually quite short. Families may subscribe individually or suggest that their parent group or local library subscribe. Public schools in which children who are deaf or hard of hearing are enrolled might also consider subscribing to these publications.

Families raising deaf or hard of hearing children with a bilingual/bicultural perspective may also benefit from membership in the National Association of the Deaf (NAD), a national organization with affiliates in most states. Membership is inexpensive, and most state groups sponsor a wide variety of

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activities throughout the year. The NAD also sponsors a national conference that convenes in a different location every two years. This conference offers sessions on a wide variety of topics and would be a fun and informative family event.

Parents might also consider adding their names to the mailing list of the Gallaudet University Bookstore. This assures that they will receive a new catalog of merchandise sold through the bookstore twice a year, as well as flyers and other promotional materials. Parents may want to order one special book about deafness for their child's birthday or for a particular holiday. They might set a goal of buying one book annually for their local or school library. Finally, they might encourage their local or school library also to purchase at least one book or videotape related to deafness annually.

Parents who feel they are not receiving enough information about deafness may wish to contact the teacher training program at a university or college in their state. Faculty in deaf education programs usually receive numerous newspapers, journals, and newsletters pertaining to deafness. Examples of this type of literature include *NTID Focus* (published by the National Technical Institute for the Deaf), newsletters published by schools for the deaf, and catalogs from training programs. Most of these professors and instructors would be pleased to share either the materials themselves or the addresses where they can be obtained.

Parents attempting to promote a bilingual/bicultural perspective in their families can also attempt to form genuine friendships, based on common interests, with people who are deaf or who have deaf family members. It has been our experience that such friendships blossom and are more long-lived if they are based on activities of true interest to those involved. It is difficult to go to a deaf club where one knows none of the members or to a church (even though a large number of deaf people might also attend there) where one recognizes no one. We have been more successful inviting one or two deaf couples to birthday parties, card parties, or family dinners, or to go bowling. This allows us to establish a relationship and find topics and activities that are of mutual interest. Some of these friendships have lasted for years, others for a shorter period of time.

Hearing parents who are intrigued with the idea of inviting one or two deaf adults to a dinner party may consider a small dinner with several couples as guests: one or two deaf couples and one or two hearing couples, like themselves, with deaf or hard of hearing children. The hosts might investigate the possibility of hiring an interpreter for the occasion, so that communication does not become an issue of concern. Many hearing parents avoid contact with deaf adults because they do not feel they sign well enough to communicate; if they feel that hiring an interpreter would ease communication and allow them the experiences they desire, then doing so is not a bad plan. It is possible that, if

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informed of what the family is trying to achieve, the interpreter might reduce his or her fee for the evening. This, however, should not be assumed.

Families with deaf members might also attend theater events involving deaf actors. This might mean traveling to a larger city to attend a performance of the National Theatre of the Deaf or visiting a residential school where a theater event is offered. Depending on the size of the city, art exhibits, mime performances, and other artistic events that involve deaf adults may be available.

Finally, parents should continue to take sign classes. If they have exceeded the level of signing offered at the school their deaf or hard of hearing child attends, they might seek additional sign classes at a community college or their state residential school. Some family members may be at a level where they could benefit from a university or college sign course. They also may be able to attend courses in deaf studies or language and deafness at a training program for teachers of deaf students. Hiring a deaf adult for private tutoring may also be an option. There is more to learn in sign classes than the signs themselves, especially if the classes are taught by deaf adults, hearing people with deaf family members, or professors who have studied deaf education.

Deaf Culture at School

School administrators, teachers, and interpreters can assist families with deaf and hard of hearing children in developing their awareness of deaf culture, deaf history, deaf literature, deaf values, and so forth. To begin with, administrators can make sure that families with deaf and hard of hearing children are made aware of other families with deaf or hard of hearing children attending school in the same district or cooperative. It may be helpful to supply families with younger children with the names of older deaf and hard of hearing children who are willing to serve as baby-sitters.

In programs with few children who are deaf or hard of hearing, administrators and teachers can advocate that deaf and hard of hearing students be placed in classrooms with other children who may be familiar with sign language, for example, hearing children of deaf parents or hearing children with siblings who are deaf or hard of hearing. This helps to ensure that children who are deaf or hard of hearing will have others in their classrooms with whom they can more easily communicate.

Schools also can teach functional signing to hearing children on a daily basis. School personnel can organize an annual or semi-annual "sign-a-thon" (along the lines of a spelling bee) and encourage all grade levels and teachers to become involved. This activity is an obvious way of promoting signing in the school.

Librarians at schools with deaf and hard of hearing students can add books, newspapers, and newsletters that promote respect for and understanding

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of deafness. Catalogs from the Gallaudet University Press, T.J. Publishers, and other such clearinghouses are rich resources of current books and videotapes for both adults and children. Librarians also can work with parent organizations in their schools to make TDDs available on loan to hearing children and teachers. These can be checked out from the library and returned in the same way as are books. Making TDDs available to all children who wish to communicate with their deaf friends increases deaf awareness at school.

Schools can celebrate Deaf Awareness Week each fall with projects on any scale. Perhaps an administrator will promise to finalize a project involving deafness that hasn't yet been completed. Perhaps teachers will introduce their classes to famous deaf adults in history. Perhaps a deaf adult from the community will be invited to talk with students about his or her own school experiences. It is not the size of the project but the respect with which it is carried out that helps us all to celebrate a successful Deaf Awareness Week.

School programs that include children who are deaf or hard of hearing might organize a "deaf advisory board." This board could include deaf adults, parents of deaf children, teachers, interpreters, and involved administrators. The board might discuss deaf culture for hearing families and hearing teachers in their school, clarify issues of concern, advocate for the needs of deaf and hard of hearing children (including the need to socialize with each other during the school day), and so forth. Deaf adults need to see that their involvement at school is genuine and appreciated.

Deaf Adults Promoting Deaf Culture for Hearing Families

Deaf adults can help families who wish to realize a bilingual/bicultural goal by making the local chapter of the NAD or the local deaf club accessible to hearing parents and their deaf or hard of hearing children. Several times a year these groups could sponsor activities such as story-telling, family sporting events, dinners, or theatrical activities.

Deaf adults might "adopt" a hearing family and do things with them on a regular basis. Another version of this idea would be to encourage hearing families of deaf children to adopt older deaf adults as "grandparents." Deaf adults might establish a big brother/big sister program for deaf and hard of hearing children or organize a monthly or annual potluck with families in the community. They might assist in organizing a silent weekend for families with deaf or hard of hearing children.

Deaf adults might compile a list of other deaf adults willing to visit schools and homes to talk with children about their own lives and values. Adults included in such a resource should be available to schools and families at a variety of times. Because their contact with families may have great significance, they should undertake this activity with great thoughtfulness and appreciation for the responsibility involved.

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RESEARCH-BASED LANGUAGE INTERVENTION STRATEGIES ADAPTED FOR DEAF AND HARD OF HEARING CHILDREN

Strategies found to facilitate the language development of young, hearing children are reviewed in this paper, and adaptations and examples for use with deaf and hard-of-hearing children are provided as alternatives to simply advising professionals and parents to increase the *quantity* of conversation with these children. It is suggested that adults accelerate the language acquisition of deaf and hard-of-hearing students by capitalizing on the linguistic opportunities provided in particular environments, rearranging environments, being responsive to indications that children have comprehended messages and are open to risk communication, and specifically by intervening on form, content, and use skills. The author challenges professionals to document empirically the usefulness of each language intervention technique presented here.

BARBARA LUETKE-STAHLMAN

The author is director of deaf education at the University of Kansas Medical Center in Kansas City.

The strategies presented in this paper are offered as an alternative to advising professionals and parents to simply increase the quantity of their conversations with deaf children. Specific research is provided that might allow for accelerated language acquisition or learning for a deaf student. Each language-intervention strategy is defined and exemplified, with adaptations noted for use with deaf or hard of hearing children. Two assumptions are made in this paper: (1) that the language skills of the child have been appropriately assessed in the areas of pragmatics, semantics, and syntax (see Siegel & Broen, 1976; Luetke-Stahlman & Luckner, 1991; McLean & Snyder-McLean, 1978); and (2) that appropriate goals and objectives have been chosen based on this linguistic assessment. A source recommended for these purposes, normed on deaf children, is the *Developmental Language Curriculum, A Comprehensive Guide and Record-Keeping System for Hearing-Impaired Students, Infant Through Twelve Years* (Cheney, Compton, & Harder, 1988).

Communication Opportunities Within Natural Contexts

Bloom and Lahey (1978) provided a definition of language that has proven helpful to educators and researchers. In their model, language is divided into three components: form, content, and use. Activities to promote receptive and expressive abilities of these components can be planned so that opportunities for acquisition occur within the natural routines of home and school. Kaczmarek (1985) provided a sample of possible linguistic objectives that could be targeted during routine school activities (see the figure). In situations in which further intervention is required, the reader is referred to work by Reed and

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Bugen (1986), who devised a method of determining relevant contexts for language drills with deaf students. Their methodology is in keeping with the work of Kaczmarek and Dell (1981), who advised that adults should not drill children on language patterns in isolation of rewarding contexts. Instead, it is important that adults see the child as a communicator and allow for turn-taking, expect replies to questions, and not control all topics. Parents' perceptions of their children as communicators who are able to participate in conversations is an important factor in early linguistic development, at least in Western culture (Snow, 1977).

This paper will focus on the language components of form, content, and use. The author assumes that specific adults will be available in settings to facilitate communication in the assigned situations or locations in order to expand a child's current skills (Hart, 1985). These adults, be they teachers, paraprofessionals, or parents, are critical to the team. They can meet with case managers to modify linguistic goals and objectives based on their perceptions and data that they collect during their interactions.

Arranging Environments

Before focusing on adult manipulation of linguistic modeling, it is first important to evaluate the potential of the physical and social environments with regard to their potentials for language acquisition. If children are internally motivated to have a particular toy, food, or piece of equipment, adults can arrange the *physical environment* in ways that might promote children's imitations of communication (Alpert, Kaiser, Ostrosky, & Hammeter, 1987). For example, adults might conscientiously store materials in view (on high shelves or in transparent containers) but out of reach, offer toys that require adult assistance for operation, and provide small or inadequate amounts of preferred materials and foods, in the hope that the children will request or comment on them.

An important feature of the *social environment* is the presence of adults who are responsive to children's nonverbal (e.g. eye gaze, pointing, whining, laughing) and verbal (e.g. spoken or signed) requests or comments. These adults can assist in making conversational repairs and returns and reinforce the child's linguistic attempts. Such adults might also stimulate the cognitive abilities of young children by offering choices for activities; commenting on the similarities and differences among items, actions, and processes; and calling attention to "cause and effect" in an attempt to

Routine Activity Language/Communication Objectives	Examples C = child; T = teacher
Arrival and Dismissal	
Greeting	C: "Hi." "Bye."
Addressing other children/staff by name	C: "Hi, Jan."
Pointing to, naming, and requesting clothing	C: "Want coat."
Pointing to and naming body parts	T: "Show me your arm."
Possession	T: "Where's you coat?"
Recalling past events and experiences	C: "I rode the bus."
Finding printed name over hook, cubby, etc.	T: "Where do you put your coat?"
Free Play	
Pointing to, naming, and requesting toys and playmates	C: "I want the train." T: "Who are you playing with?"
Pointing to and naming body parts of dolls	T: "Where's the doll's eye?"
Describing actions of self and others	C: "I'm painting."
Requesting that others perform certain actions or that certain events recur	C: "Open it, please." C: Takes T's arm and moves it toward a wind-up toy
Answering "how" questions by action and/or verbally	C: "Pulling this thing."
Describing immediate experiences and events	C: "Johnny took the big one."
Describing what he/she is going to do	C: "Put it away in there."
Predicting what will happen in certain situations	T: "Tell me what will happen when you pull the lever."
Describing several events in sequence	C: "I put it on top and he knocked it down."

Kaczmarek (1985)

Figure
Possible Language/Communication Objectives for Selected Routine Activities

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prompt a response from an attentive student.

And finally, *routines in the environment* can be altered or "sabotaged" to promote communication. Lucas (1980) described the role of the saboteur as that in which the significant adult changes organized, predictable events or routines into ones that needs constant verbal interaction to produce desired consequences. Routines begin, progress, and end in essentially the same way each time they occur. They can be manipulated because the student has a script or expectation of each routine in mind. Many manipulations of the script can be performed, creating the need for functional language (Fey, 1986). Adults can then sabotage scripts in basic ways to provide children with unexpected situations. Adults become saboteurs rather than "doers" for children. Constable (1983) organized the manipulation of the *nonlinguistic* environment into three areas to set the stage for the saboteur:

1. *Violation of a Routine Event.* In this strategy, a familiar step in an activity is omitted or performed incorrectly. You might try to send a toddler to the wrong mommy, ask the wrong child to join a routine event, or sit down to a lesson without having the usual, necessary supplies. These types of activities may cause a child to protest, warn, or tease.

2. *Withholding Objects and Turns.* Here the adult mischievously excludes a child (from a group, in a line to leave the room, in a game while handing out materials, etc.) so that the student will have to perform some type of conversational act. For example, the child might make a request for attention, action, or information in order to have a turn or obtain an object that is crucial to completing some larger task.

3. *Violation of Object Function or Manipulation and Hiding Objects.* Lucas (1980) has suggested several examples of violating object function or manipulation. She lists "environmental problems" such as scissors that are taped together, plugged glue bottles, empty or dried-up pens, broken pencil leads, coat sleeves turned inside out (so children will need to fix them), not enough chairs, not enough snacks, cups with holes, missing toy pieces, flat balls, short jump ropes, missing colors, and water faucets turned off tightly, etc. These types of events occur naturally in the home but may need to be created in the clinic or school situation.

The Temporal Environment

Much of the success of language intervention strategies hinges on the adult's ability to create real needs to communicate in routine situations that are familiar to the student. For the toddler or older, uncommunicative student, this often means identifying moments in which the child is motivated to use language. In these situations, it is important to allow the child time to use the language that he or she is capable of using and not move too quickly to solve a problem or satisfy a need before the child attempts to communicate.

Gross Intervention Considerations

Quantity

Often the success of analyzing and producing specific vocabulary, figurative phrases, and syntactic structures hinges on the availability of linguistic models of at least a small number of the target forms embedded in salient ways in discourse (Baker & Nelson, 1984). That is, higher frequencies of linguistic models embedded in the fabric of conversation may produce proportionately more rapid acquisition than will infrequent input.

Slightly More Advanced Input Models (Input + 1)

The concept of *input + 1* is general and vague. Many researchers (Cross, 1978; Krashen, 1988; Lee, Koenigsknecht, & Mulhern 1975; Nelson, Heimann, Abuelhaija, & Wroblewski, 1989) have noted that children advance linguistically largely because of an ability to successfully analyze sentences more complex than those already in their system (i.e., input + 1), and that in turn, conversational partners who use such sentences in direct, topic-continuing replies to the child's utterances, facilitate language acquisition. A little of the right kind of linguistic evidence (i.e., input +1) for the child's current level is often all that is required to induce an advance to the next level (Nelson, Dennigner, Bonvillian, & Kaplan, 1984).

Lee et al. (1975) demonstrated another example of the input + 1 strategy by incorporating the technique within stories. Using a method called "interactive language development teaching," stories were written that contained several grammatical forms that the child did not use expressively. Multiple examples of each form appeared in each story. An adult read a few lines of a story and asked children questions designed to evoke responses containing a target form. In this study of 28 preschool hearing children, the procedure was found to be effective in facilitating the use of verb forms, negatives, and wh questions. Children's postinterven-tion use of the grammatical forms in their own conversations exceeded the level expected by maturation alone.

Teachers and parents, knowledgeable of the child's usage of language, vocabulary levels, and grammatical structures, can begin to use a few specific linguistic targets with a child until the child begins to demonstrate that the behaviors have been acquired (that is, that they appear spontaneously from the child in a variety of contexts). Some skills, vocabulary, or phrases of interest may appear more quickly than complex structures or linguistic behaviors that require more developed cognitive and linguistic abilities (e.g., use of connective words such as *but* or *instead*)

Partial Repetitions

Cross (1977) showed that partial repetitions are almost always a response to the child's failure to respond appropriately to what the mother originally said. Their use usually ensures exposure to slightly advanced input models (input + 1). Mothers of accelerated children used significantly more partial repetitions of their own preceding utterance.

Adult	*Child*
Put it here beside the other one.	
	here?
No, *put it here*—next to the orange one.	
	[child looks]
Put it right here.	
Put it next to the orange one.	
	next to orange... here
That's right, right next to the orange one.	

Partial repetitions reduce the complexity of the original utterance. They allow the child to grasp the meaning of the adult model independent of his or her own syntactic limitations. The result of the interaction is a sequence of utterances about the same topic that vary in length and complexity. Cross (1978) argued that at least one of the these utterances will match the child's processing capabilities (i.e., input + 1) and permit conversational response.

Form-Based Strategies

Form-based strategies interface with an important variable in deaf education that of the type of sign model being used to model English. If features of grammar and syntax are dropped by the adult, clearly form is sacrificed. If signers begin to speak before their hands start-up to code their intentions, grammatical features such as pronouns, auxiliary verbs, and question words are inaccessible to the deaf child. Form information presented here, assumes that a complete model of the language is provided to the child.

Imitation of the Model

Although imitating a model may be an effective language acquisition strategy (Gootsleben, Tyack, & Buschini, 1974), it has been overused in deaf education and, comments Leonard (1981), it is not a pragmatically-based technique. This same comment holds true for the deaf education technique of emphasis as well (e.g., "Say, 'She is look*ING* at him'."). A standard example of the strategy of imitation might be as follows.

Adult: I'm jumping [stated when the adult is not jumping]
Say "I'm jumping."
Child: I'm jumping. [Child is really not moving.]

Nelson et al. (1989) noted that adults who rely extensively on imitation may limit the child's opportunity to analyze and learn new and more challenging structures that are beyond the child's current language system.

Hester and Hendrickson (1977) used imitation in a manner different from Gottsleben et al. (1974). Instead of providing an imitative model prior to the child's response, the researchers used the strategy only if the child failed to produce the target utterance in response to a request. For example, if an adult began zipping up her jacket and the child was watching, the adult might say, "What am I doing?" If the child failed to respond appropriately, the adult might zip a little more, repeat the question, and label the action. If the child imitates any portion of the utterance, he or she should be reinforced in a natural manner.

Adult: What am I doing?
Child: [No response]
Adult: What am I doing—I'm zipping
Child: Zipping
Adult: Zipping, yes I am—right!

Expansions or Relevant Recasts

Another form-based technique is that of *expanding* or *recasting*. In using expansions of the child's sentence or a *simple* recast, the adult changes just one or two major components or expands an incomplete sentence produced by the child without reordering any elements of the child's sentence.

Child: I need help with the [gesture].
Adult: Oh, you need help finding the right *channel*?
Child: Boat go.
Adult: Yes, the boat is going.

A first utterance is recast or redisplayed in a changed phrase or sentence that still refers to the central meaning of the first sentence (i.e., is relevant). Research has demonstrated that recasting is a powerful conversational means for enhancing the young child's attention to and analysis of to-be-acquired syntactic structures (e.g., Nelson et al., 1989). Because of the lack of grammatically-correct models available to deaf children, it is especially important that adults recast child utterances frequently throughout the day.

In using a *complex* recast, the adult retains an overlap in meaning but structurally changes two or more main components of the child's utterance. The changes could involve supplying new subjects, verbs, or objects, or revising what the child expressed. An illustrative recast of "it fell on your toe, Mom." would be "Yes, the block fell from your tower and almost hit my toe." (adapted from Nelson, et al. 1984). Recasting the utterances of deaf children can allow adults opportunities to model authentic English.

Child: I will not be cold.
Adult: No, you *won't* be cold.

Written Recasts

Baker and Nelson (1984) presented pairs of sentences containing target grammatical forms in stories. Nine hearing preschoolers listened to 36 readings of stories written with noun

Self-Talk	Parallel Talk	Inform Talk
my car goes zoom, zoom	you got the blue car	Jan says she wants the red car
	you go up the hill	Pam says she's going around the curve

Table
Contrasts of Self-Talk, Parallel Talk, and Inform Talk

and verb phrases recasts. Nine language-matched children served as controls and did not hear the stories. Pretest language samples were compared to posttest samples to assess language change. The results indicated superior language gains in the complexity of certain grammatical features used by the children who listened to the recasted stories. Luetke-Stahlman and Luckner (1991) also recommended a version of this strategy for deaf children.

Content-Based Intervention

As with form, the content of a language in deaf education can be affected by the type of signing an adult is modeling. If figurative expressions are reduced to simpler forms, if words are spoken on the lips that are coded with signs of different meanings on the hands, the deaf child may have a difficult time accessing the intended meaning. The strategies presented assume adults are aware of the impact of their signed model on the semantic component of English (Luetke-Stahlman, 1989).

Following the Lead

To make language strategies effective, adults must follow children's leads. Noticing the child's interests, watching for nonverbal clues for information about desires, establishing joint attention on the topic of interest, and reinforcing the child's initial communication attempts will encourage the child to risk using language to label wants and desires.

Self-Talk. Self-talk is a method of stimulating noncommunicators (Fey, 1986). The strategy is appropriate for students of all ages. Self-talk is defined as talking (cuing or signing) out-loud to oneself and verbalizing what the communicator is seeing, doing, and feeling. No demands are made on the child to attend to this linguistic model, although the strategy is more successful if the facilitator uses materials and actions that are age- and cognition-appropriate and that are of interest to the student. For example, as you play with cars with a two-year-old, you might comment: "My car goes...zoom, zoom...my car goes fast." Enthusiastic *but appropriately paced* self-talk can often lead to successful play or activity interactions (Fey, 1986).

Parallel Talk. In using parallel talk, the significant adult shifts from his or her own thoughts and actions to assertions about the actions and objects of the child (Fey, 1986). Again, no demands are made of the student to respond, but when language is paired with the student's play or work that is slightly more advanced than what the child is using, the assumption is that the student will *notice* the language. Using the example of playing with a car and a two-year-old again, you might say, sign, and cue "Your car is fast...your blue one goes zoom...you go up the hill."

Inform Talk. When children are working or playing with peers who do not sign or cue, the strategy of informative talk (Luetke-Stahlman & Luckner, 1991) can be helpful to facilitate language acquisition. This form of talk may be in the style of interpreting what a hearing student has said or reverse interpreting what the deaf child has said or signed. It also may be that you will describe or comment on the actions of the student's peer, much as you would do using self-talk (see the table for an example).

Expatiations

When expansion-like behaviors involve changing the meaning or vocabulary of a child's utterance, the strategy is actually one of *expatiating*. Expatiations might include lexicalizing (e.g., supplying synonyms or antonyms), substituting figures of speech, and providing variation in vocabulary choices. For example:

1. Child: How your coat get closed?
   Adult: Oh, how do I fasten my coat? Mine zips. See?
2. Child: That's funny.
   Adult: Yep, it's pretty silly, alright.

Semantically-related Utterances

Mothers of linguistically accelerated children use significantly greater proportions of utterances that were repetitions of all or part of the child's preceding utterances. These full or partial repetitions are generally semantically-related to the preceding child utterances (Cross, 1978). Kenworthy (1984) found that mothers of deaf children often responded in a manner that was *noncontingent* and tended to ignore the discourse topic initiated. Skilled "recasters" should attempt to encode the semantic relations that the child may be considering at the moment.

Paraphrasing

When a child uses words or expressions to communicate a concept in English, adults can assist both the form and content of language acquisition by paraphrasing the child's utterance and supplying the appropriate (i.e., more standard) terms. "Hot spots" of acquisition (indicated in bold type in the example below) occur when children have been gathering information about form or word-meaning, are supplied needed information at exactly the right time, and use a newly acquired word or phrase.

Child: I like to eat onions that are not cooked.

Mom: Oh, you like uncooked onions?
Child: Yeah, I like them **uncooked**.
Mom: Wow, I don't like raw onions!
Child: Well, I like them **raw**. I do.

Higher-Level Language Facilitation Techniques

Adding Distinguishing Information

Sometimes it helps a child to learn specific new terms if definitions are included in the adult model. Defining a *dump truck* as compared to a *garbage truck* or *moving van*, helps children expand their language in a manner, because the strategy targets vocabulary that is of special interest. In the following example, the adult adds information about an errand to clarify the meaning of the term *dry cleaners*.

Adult: Do you want to go to the dry cleaners with me?
I need to pick up our clean clothes.
The people at the cleaners have cleaned them.
Want to go to the dry cleaners with me?

Using Context to Aid Acquisition

Novel Vocabulary Supported in Linguistic Contrasts and Contexts

It may help a child to learn specific, new terms if novel vocabulary is provided in the context of known vocabulary or if novel vocabulary is contrasted with known vocabulary. The strategy is speculative, however, and warrants empirical investigation.

1. Adult: Mary Pat, I need you out of the tub—now.
Shake a leg, I want you to get out quickly.
Please hurry—shake a leg.
2. Adult: You can't eat in the living room because it's *carpeted*.
The kitchen has a tile floor.
See the tile? This is not carpeted; it's tile.
Tile is easier to clean up than carpet. Please eat in the kitchen where the floor is tiled.
3. Fingerspelled words:
Adult: DO YOU WANT G-A-T-O-R-A-D-E + DRINK?
LOOK, THIS GREEN DRINK IS CALLED G-A-T-O-R-A-D-E.
DO YOU WANT IT TO DRINK?

Bimodal Support for Difficult or Lengthy Words/Phrases

It may aid a child in acquiring communicative skills if an adult who typically uses sign (indicated with capital letters in the example below) to support speech systematically instead signs only the key or difficult words in more complex segments of long sentences. This strategy might assist a deaf child in using residual hearing and speechreading skills.

Adult: Do you want RICE KRISPIES or FRUIT LOOPS for breakfast this morning?
Fruit loops?
OK.
I'll get the PITCHER of milk out for you.
Should I pour?
Ok. Please eat your breakfast now.

Building on Simple Routines

Adults can build language into typical daily routines and then increase their expectations of what is expressively provided by the child as he or she acquires initial language targets.

1. Adult: Mary Pat, do you need a bowl for breakfast?
Yes or no?
[Waits a long time for reply]
Yes? [molds hand]
2. Adult: Mary Pat, do you need a bowl or a plate? [fork or a spoon; plastic or paper cup; various colors of objects; various sizes of objects etc.]
Which one? bowl or plate?
3. Adult: What do you need for breakfast? [no choices given]
4. Adult: Mary Pat, will you help me set the table? You tell me what you want to use and I'll get them down for you, ok?

When Not to Facilitate Language Acquisition

As effective as specific language strategies have been in facilitating the acquisition of language for hearing children, there are times when it is inappropriate to use them. These would include:

1. when the child is talking to you in front of peers (outside of the classroom or at home);
2. when the child is communicating with a sibling or peer (and not with you);
3. when the child is excited and has a definite message to share.

Conclusions

Nelson et al. (1984, p. 21) summarized the "state of the art" on input models in the following way.

> Input adjustment that will have a positive effect and is provided at sufficient and necessary levels should be given in the following ways:
>
> 1. Adjusted to the child's current structural level—above but not too far above that level.
> 2. Adjusted to the discourse situation—placed so that the child has a good chance to attend to, make social sense of, and encode the input example.
> 3. Adjusted to the child's strategic approach to learning language—input that works well for one child at a certain stage may be useless to another child operating with another strategy.
> 4. Adjusted to the other inputs the child receives. When a full set of useful input for the child's current stage is not supplied by the primary interaction partner (whether mother, father, sibling, or whoever), then the child may fill gaps in the input through interaction with others.

The strategies presented in this paper have been used successfully with hearing children. It remains for motivated professionals in the field of deaf

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education to provide empirical proof that they benefit children who are deaf or hard of hearing. Accepting this challenge may provide information to parents and professionals that will allow them to accelerate language acquisition with deaf and hard-of- hearing children.

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Deaf Education In Rural/Remote Areas:Using Compressed/ Interactive Television

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Abstract

Compressed/interactive video is a relatively new format for providing preservice and inservice courses to rural and/or remote areas (Willis, 1993). At the University of Kansas Medical Center only two programs, those of Nursing and the Deaf Education, have engaged in this format of distance education. While the methodology was expected to assist graduate students in areas of the state who could not travel to participate in courses on one of the three urban campuses, it was also expected to challenge instructors to teach effectively while still encouraging active learning activities. Surveys of questions to rural and urban students were given to 13 graduate students in two courses in the fall of 1992, and to three additional students in the fall of 1993. Analyzed results documented the success of the compressed/interactive (ITV) video teaching format for this small group of master level students in Kansas.

The use of interactive/compressed video (ITV) for preservice (Sydney, 1992) and inservice (Rule & Stowitschek, 1991) training in special education has been described as having merit. Although the training (using ITV) of paraprofessionals (O'Rourke, 1991) and special education teachers (Rule & Stowitschek, 1991) has been beneficial, the use of the technology for training in Deaf Education, and with manual forms of communication, has not been documented. However, such training has occurred at the University of Kansas Medical Center for the past three years.

After studying the technologies available for long distance learning (Lochte, 1993; Willis, 1993), personnel at the University of Kansas Medical Center (KU Medical Center) determined that ITV offered the most cost-effective approach for medical and educational contact with rural and remote areas of the state (Mahler, 1992). "Compressed interactive video was selected because special networks (e.g., leased lines or fiber optics) were not required" (p. 354) and commercially available common carrier telephone services provided contact within the state, nation, and world. The KU Medical Center program operates on the state KANS-A-N network using the equivalent of six simultaneous long-distance telephone lines (Mahler, 1992). Currently, approximately 30 sites can connect to the system at a rate of $15.00 - $35.00 per hour depending on time of day, number of sites connected and the number increases annually.

The KU Medical Center terminal had been located in a small conference room at the hospital; a second classroom has since been added as a second teaching site. Now units can either be fixed or mobile and include camera-recorder-transmitters mounted on rotating platforms that can be directed to individuals or small groups seated in the rooms (Allen, 1992a). The systems have fully interactive audio/video links that permit face-to-face conversation and use of multimedia support (e.g., videotapes, transparencies, book pages, evaluation tools, etc.).

The ITV technology provides rapid, high-resolution audiovisual transmissions. Using this technology, educators at the KU Medical Center can see, hear, and converse with their students and colleagues throughout the state. With properly mounted or lavaliere microphones, participants do not need to move from their seats to be seen or heard at all of the sites, and can use their hands to demonstrate or communicate in sign.

When the instructor/facilitator interacts with participants at one site all participants at all sites can see and hear both the teacher and the students. The instructor's ability to see participants's facial expressions and reactions assist in determining if students are understanding concepts presented or discussed. A video recording (including two-way audio) can be made at either end of the system. This provides a record for those who missed class or can be used as self-evaluation material for instructors.

The use of ITV enriches curriculum offered by the university to rural/remote areas, allowing for the obtainment of low-incidence and advanced classes. It is suitable to use and teach sign classes as well as content material in Deaf Education. The capability of the system to facilitate educational offerings (e.g., Deaf Studies,

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Methods, Language and Deafness, etc.) and conference discussions is immense. Instructors found that the teaching materials they traditionally utilized in on-campus courses adapted well to ITV courses. That is, the instructors both typically used outlines of lectures and discussion topics presented on overheads, videotaped examples of course content (e.g., teaching techniques), as well a actual assessment tools, curriculum kits, assistive listening devices, and so forth. These could all be shown to rural students using the visual display unit provided in the classroom. Both instructors were used to serial discussion in which speakers were asked not to interrupt each other or talk simultaneously because such discussion cannot be interpreted in sign successfully. Therefore, they did not need to alter their teaching styles when they offered courses on ITV.

Practical questions have focused on whether or not this system is a satisfactory alternative to "live" lecture and demonstration with students. It was the purpose of this study to address two questions: Is ITV functional for instructors/facilitators? and is it acceptable to students?

Methods/Subjects

A total of 13 graduate students, registered in two different courses (taught by two different professors) and enrolled in the deaf education program at a Midwestern university in the fall, 1992, served as subjects for the study. Each class used the ITV system once a week for 2-3 hours asession. Group I consisted of eight urban students and two rural students. Group II consisted of two urban students and one rural student. Both classes utilized simultaneous communication (signed and spoken) during instruction and social interaction.

All subjects who participated in the present study had earned an undergraduate degree. One also held a masters degree. Subjects ranged from 22 to 53 years of age. All but one were females; one was deaf. Six were married; two had young children. Subjects were enrolled in 3 to 18 hours of graduate hours of study, including one or both of the courses evaluated in the present study. Eight students were employed in addition to attending school (four as teachers) and worked 10 (four subjects) to 40 (four subjects) hours a week. Rural students lived in towns of 5,000 to 20,000 citizens and indicated that they could not have taken courses if they had only been offered on the main campuses of the University of Kansas. As it was, rural students drove 5 to 160 miles to attend the courses at a site with ITV capabilities nearest them.

Procedure

Subjects who had enrolled in the fall, 1992 courses provided responses to unlabeled scale ratings (strongly disagree, neutral, strongly agree) that were later converted to a numerical score, ranging from 0 to 5 (5 = strongly agree) for questions on a Tele-Education Evaluation tool developed by Allen (1992). Rural subjects responded to 16 rated and one open-ended question; urban subjects responded to 15 rated and one open-ended question. An additional five questions (18-22) were rated or answered only after the final ITV classes in each course.

Due to delays with the ITV system, instruction for the two courses was provided for 11 weeks to rural students in a correspondence course format. Group I responded to the survey in weeks 13 and 14 (of a 15 week course schedule), after having initiated the use of ITV in week 12. Group II responded to the survey in weeks 12, 13, and 14 (of a 15 week course schedule), after also having initiated the use of the ITV capabilities in week 12. That is, subjects experienced four weeks and three weeks, respectively, using ITV.

Instructors (n=2) also provide responses to the scale ratings for questions developed by the author that paralleled those asked on the Allen (1992) instrument. Therefore, the instructor survey and the subject survey were highly similar tools.

In the fall, 1993, three new graduate students enrolled in a course offered via the ITV format. Three local students also were enrolled in the course. At the termination of all classes, the three rural students were asked to complete the demographic and post survey (Allen, 1992) that the students enrolled in the course the previous year had completed.

Results

Subject (n = 13) ratings were averaged (a) across courses, (b) comparing courses, (c) with regard

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to the perspectives of rural students, and (d) comparing the pre/post ratings of rural subjects as compared to urban participants.

All Subjects

When the ratings for all subjects (across courses) for questions 2, 3, 4, 5, 10, 13 and 14, were compared, responses ranged between 1.1 and 2.0 (See Table 1). That is, subjects *generally agreed* that the camera and monitor were not distracting, that being on "TV" did not make them feel self-conscious, that it wasn't hard to ask questions during class, that the professor didn't spend too much time attending to the "other" (rural or urban) group, that the audiovisual materials were presented adequately, and that they didn't find it difficult to concentrate.

Table 1: Group Means for Questions Across Courses (Group I+ Group II)

Rating Possibilities	Questions
0 - 1.0	
1.1 - 2.0	[2], [3], [4], [5], [10], [13], [14]
2.1 - 3.0	[11]
3.1 - 4.0	6*, 15*
4.1 - 5.0	1*, 7*, 8*, 9*, 12*

Note: [ ] = low rating indicated satisfaction
* = high rating indicated satisfaction

The average of all subjects on question 11 (It was harder to participate in discussions than compared to the standard classroom) was also a rating of disagreement. Responses ranged from 2.1 and 3.0.

The average of all subjects on questions 6 and 15 was a rating mean of agreement between 3.1 and 4.0. The rating of Question 6 judged so-so to be comfortable. The rating of Question 15 indicated that the ITV equipment did not interfere with learning.

Five questions were rated in high agreement (with rating ranging between 4.1 to 5.0). That is, subjects generally agreed that the course material was covered well, that the lighting was good, that they could hear well, that the instructor was well organized, and that the visual aides used were helpful.

Between Courses

When Group I (Deaf Studies) and II (Methods of Teaching Elementary Students Who are Deaf and Hard-of-Hearing) were compared, ratings (See Table 2) indicated agreement of nine questions: 1, 3, 10, 14 (1.1 to 2.0); 11 (2.1 to 3.0); 6 (3.1 to 4.0); and 7 and 9 (4.1 to 5.0). Responses to six questions differed (by one category in all cases). These were 4, 5, 8, 12, 13, and 15.

Table 2: Agreements and Disagreements For Group I Compared to Group II

Agreements		
2	14	1
3	11	7
10	6	9

Disagreements		
Rating Possibilites	Group 1	Group 2
0 - 1.0		
1.1 - 2.0		[4], [5], [13]
2.1 - 3.0	[4], [5], [13]	
3.1 - 4.0	8*, 12*	15*
4.1 - 5.0	15*	8*, 12*

Question 4	Group I was more self-conscious about being "on T.V."
Question 5	Group I had a harder time asking questions.
Question 8	Group I could hear less well.
Question 12	Group I found the audio-visual materials less useful.
Question 13	The video-screen presentation was worse for Group II.
Question 15	Group I was able to learn better than Group II in the televideo class.

Note: [ ] = low rating indicated satisfaction
* = high rating indicated satisfaction

Group I and II pre/post ratings using interactive video showed agreement in the ratings of nine questions 2, 3, 10, 14 (1.1 to 2.0); 11 (2.1 to 3.0), 6 (3.1 to 4.0), and 1, 7, and 9 (4.1 to 5.0). Responses to six questions were rated differently (by one category in all cases). These were questions 4, 5, 8, 12, 13, and 15. Overall Group II (Methods) indicated more satisfaction with the televideo class than did Group I (Deaf Studies) subjects.

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Rural Compared to Urban Subjects Across Courses

Responses of rural subjects were compared to those of urban subjects across courses (see Table 3). Agreement was demonstrated in the ratings of 12 questions: 1, 2, 4, 5, 6, 7, 9, 10, 13, 14, 15, and 16. Subjects rated four questions differently. These were questions 3 (distraction of the monitor), 8 (ability to hear), 11 (discussion opportunities), and 12 (audiovisuals). The questions differed by one category in all cases.

Table 3: Rural Compared to Urban Subjects Across Courses

Agreements			
1	5	9	14
2	6	10	15
4	7	13	16

Disagreements		
Rating Possibilities	Pre	Post
0 - 1.0		
1.1 - 2.0		
2.1 - 3.0	[3], 8*, 12*	[3],[11]
3.1 - 4.0	[11]	8*, 12*
4.1 - 5.0		

Question 3:	The presence of the monitor became less distracting
Question 8:	Ability to hear improved
Question 11:	Ability to participate in discussions increased
Question 12:	Audiovisuals become more useful

Note: [ ] = low rating indicated satisfaction
* = high rating indicated satisfaction

Pre-/Post Comparison of Rural Subjects Across Courses

When pre- and post comparisons of the ratings of rural subjects were made across the two courses, there were 11 agreements and 4 disagreements (See Table 4). Agreements were demonstrated for Questions 2, 3, 4, 5, 6, 8, 9, 10, 12, 14 and 15. Subjects rated four questions differently. These were questions 1 (course material), 7 (lighting), 11 (ease of discussion), and 13 (manner in which AV was presented). The ratings all differed by one category.

Pre-/Post Rural Ratings in the Deaf Studies Class

Pre-/Post responses of rural subjects who were enrolled in the Deaf Studies class were compared at the time use of ITV began and at the end of the course (See Table 5). Pre-/Post ratings showed agreement on nine questions: 2, 3, 6, 8, 9, 12, 13, 14, and 15. Subjects rated six questions differently. These were questions 1, 4, 5, 7, 10, and 11. These questions differed by one category in all cases. From the pre-testing to post testing, subjects indicated that they felt more self-conscience and that it was more difficult to ask questions. All other changes were of a positive nature.

Table 4: Pre-/Post Agreements and Disagreements of Rural Subjects Ratings Across Courses

Agreements			
2	5	9	14
3	6	10	15
4	8	12	

Disagreements		
Rating Possibilities	Pre	Post
0 - 1.0		
1.1 - 2.0		
2.1 - 3.0	[13]	7*,[11]
3.1 - 4.0	1*,[11]	[13]
4.1 - 5.0		1*

Question 1:	Course material was better covered
Question 7:	Lighting improved
Question 11:	Ability to participate in discussion decreased
Question 13:	The manner of presenting audiovisual materials worsen

Note: [ ] = low rating indicated satisfaction
* = high rating indicated satisfaction

Pre-/Post Rural Ratings in the Deaf Methods Class

Pre-/post responses of rural subjects who were enrolled in the Deaf Methods class were compared at the time use of ITV began and at the end of the course (See Table 6). Pre-/Post ratings showed agreement on the ratings of 12 questions: 1, 2, 4, 5, 6, 7, 9, 10, 13, 14, 15, and 16. The subjects rated four questions differently. These

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Table 5: Pre-Post Agreements and Disagreements for Rural Subjects Ratings for Group I (Deaf Studies)

Agreements			
2	6	9	13
3	8	12	14
			15

Disagreements		
Rating Possibilities	Pre	Post
0 - 1.0		
1.1 - 2.0	5,[*],7*	[10]
2.1 - 3.0	[10]	[4],[5],[11],7*
3.1 - 4.0	1*,[11]	
4.1 - 5.0		1*

Question 1	Course material was better covered
Question 4	Being on "TV" cause a feeling of self-consciousness
Question 5	Difficult to ask questions
Question 7	Lighting improved
Question 10	Too much time spent dealing with the outreach course
Question 11	Ability to participate in discussion decreased

Note: [ ] - low rating indicated satisfaction
* - high rating indicated satisfaction

were questions 3, 8 (ability to hear), 11, and 12 (usefulness of AV). These questions differed by category in all cases.

Instructor's Survey

Responses to the instructors' survey demonstrated high agreement between the professors (See Table 7). They rated questions 1, 2, 3, 5, 9, 11, 12, and 12B in exact agreement. Their ratings differed by one on all other questions except #6 (seating was comfortable). Instructor A strongly disagreed with this statement. Instructor B gave the item an average response.

1993 Subjects

The responses of three rural, female students enrolled in the Deaf Methods course in the fall, 1993, were asked to complete only the post course survey. Student 1 was a teacher of gifted students who had completed 27 hours towards certification in deaf education. She drove 75 miles to attend the course at a site located approximately 150 miles from the [illegible] other two teachers had completed six hours in the deaf education program and drove 30 and 35 miles, respectively to attend class. One of

Table 6: Pre-Post Agreements and Disagreements for Rural Subjects Rating for Group 2 (Deaf Methods)

Agreements			
1	5	9	14
2	6	10	15
4	7	13	16

Disagreements		
Rating Possibilities	Pre	Post
0 - 1.0		
1.1 - 2.0	8*, 12*	[3],[11]
2.1 - 3.0		
3.1 - 4.0	[11]	8*
4.1 - 5.0	[3]	12*

Question 3	The presence of the monitor became less distracting
Question 8	Ability to hear improved
Question 11	Ability to participate in discussion decreased
Question 12	Audiovisuals became more useful

Note: [ ] - low rating indicated satisfaction
* - high rating indicated satisfaction

these sites was 100 miles and one was approximately 400 miles from the main campuses.

Responses were highly similar to those from rural students provided in the previous year. All three students indicated some difficulty with asking questions, participating in discussions, and using audiovisual materials as compared to a traditional course. Two students indicated that they felt somewhat self conscious being "on TV."

Discussion

This study was limited in that only a small number of Deaf Education graduate students representing a total of five sites participated. Yet, teaching core courses that are required for certification as a teacher of the deaf using compressed interactive video technology was rated a successful experience at the University of Kansas Medical Center. Overall, subjects rated questions requiring a low rating indicating satisfaction and questions that required a high rating also indicating satisfaction.

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Table 7: Instructor's Survey

Instructor A			Instructor B
1	[1]	Covered material in the televideo class to the same degree that you'd have covered it in a traditional class	5
2	[2]	The camera distracted you	2
	[3]	The monitor for the other class distracted you	1
3	[4]	Being "on TV" made you feel self-conscious	1
4	[5]	You had a hard time asking questions	1
	[6]	The Seating was comfortable	3
1	[7]	The lighting was good	5
1	[8]	You could hear the other classes	1
	[9]	You felt as well-prepared as you would have if you had been teaching in the traditional format	5
4	[10]	You did not spend too much time dealing with the outreach course	5
1	[11]	You felt it was harder for both groups to join in on discussion	4
	[12]	You use audiovisuals	5
	[13]	You found audiovisuals useful	5
	[14]	Presenting audiovisuals on the video screen was worse than the chalkboard usual overhead	1
	[15]	You found it difficult to concentrate	1
	[16]	It was hard to interpret	1
	[17]	It was hard to understand the (deaf) of the rural site	*A

Table 7: low rating indicated satisfaction
high rating indicated satisfaction

Students enrolled in a Deaf Studies course (Group I) were more self-conscious about being "on T.V." and about asking questions than those students in a "Methods" course (Group II). Group I had more technical problems with sound than Group II and found the audio-visual materials less useful. They also had problems with the audio-visual screen. In general, Group I students were able to attend slightly better than Group II students using the ITV system, but both groups gave high ratings to the format.

Rural students in each separate class, as well as averaged across courses, changed their opinions about the use of the televideo technology in a positive direction within a short period of time (Tables 3,4,5). They gave slightly lower ratings (4.1 to 4.0) to being able to learn more like ITV compared to traditional classroom instruction, did the overall group (4.1 to 5.0). Yet, one rural student commented that, "The tele-education connection helped me a great deal. It made me feel more a part of the course. It worked very well for me." Another commented, "Taking the course in this manner was much better than a correspondence course format. Being able to directly speak to the instructor and other students was a crucial part of the class for me."

Student satisfaction with ITV has encouraged the author to continue to teach using this technology. Future research might involve a larger number of participants, now that four courses have been taught over the system, as well as a comparison of student satisfaction when a particular course is taught in a traditional "on campus" format as compared to ITV use. The author welcomes such research in Deaf Education and welcomes comments from others utilizing this format.

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IN-SERVICE TRENDS

GENERAL EDUCATION TEACHERS WORKING WITH EDUCATIONAL INTERPRETERS

The "inclusion" movement has resulted in a shift of placement for children who are deaf or hard of hearing. Over 50% of students who are deaf or hard of hearing are now attending academic classes with hearing students in public school settings (Schildroth & Hotto, 1993). As the enrollment of deaf and hard of hearing students in public schools continues to increase, so does the need for qualified educational interpreters. The present study was designed to investigate nationwide the in-service training that general- education teachers receive with regard to the roles and responsibilities of educational interpreters. One hundred elementary and secondary general education teachers were surveyed, yielding a 59% return rate. Less than 33% of those teachers who returned surveys had attended in-services on the topic of educational interpreters. Neither the academic level (i.e., elementary and secondary) of the teachers who participated or the number of students who were deaf or hard of hearing and in attendance at a school influenced the number of in-services provided on the topic of interpreting.

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The number of students with disabilities served in public school settings has increased dramatically since 1976-1977, the year in which Public Law 94-142, the Education of All Handicapped Children Act (reauthorized in 1990 as PL 101-476, Individuals with Disabilities Education Act) took effect (Fuchs & Fuchs, 1994). This law provided opportunities for special students to be integrated into general education programs. Consistent with this trend toward integration, the number of deaf and hard of hearing students in general education classrooms also has increased (Schirmer, Moores, & Gaustad, 1992). Schildroth and Hotto (1993) have reported that approximately 50% of deaf and hard of hearing students are attending academic classes with hearing students in public school settings.

Over the last two decades, schools have become more "inclusive," opting for general education interest in special education concerns rather than the continuation of parallel administration, teaching, and student placement (Fuchs & Fuchs, 1994). A trend toward shared responsibilities between general and special education has resulted in a dramatic increase in the number of educational interpreters working in public schools. In the 1994 reference issue of the *American Annals of the Deaf*, more than 500 public schools were listed as employing interpreters (Stuckless & Corson, 1994). Although the number of schools employing interpreters continues to rise, general education teachers receive little if any orientation concerning the educational interpreter (Hayes, 1994).

General education teachers have expressed concern about working with educational interpreters. Teachers surveyed by Mertens (1991) openly admitted a lack of knowledge about interpreting. For ex-

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ample, teachers often felt uncomfortable in situations such as communicating with or disciplining deaf or hard-of-hearing students because of a third party, the interpreter, being present. In addition, teachers surveyed were not familiar with environmental needs (e.g., lighting, seating arrangements), nor did they know how to place the interpreter in the classroom. Interpreters surveyed in Merten's study suggested that teachers needed to know more about the general roles and responsibilities of the interpreter.

In-service is one positive way to distribute information to general education teachers. In-service has been defined by Walker (1991) as school-sponsored "courses designed to provide teachers with growth in job-related competencies or skills" (p. 1038). Hummel (1982) noted that teachers who attended in-services on topics of interest demonstrated positive feelings, confidence and support, and greater knowledge in specific areas.

Although research has shown that in-services benefit teachers, many school districts continue to neglect this method of educating staff. Both Fitch (1982) and Luckner (1991) studied the frequency of in-services concerning deaf and hard of hearing students and found that little information was provided to general education teachers and other staff on this topic. It is noteworthy that while these two studies are separated by nine years, their findings on this point are identical.

One in-service topic of current interest to general education teachers serving children who are deaf or hard of hearing is that of educational interpreting. The term *interpreter* is used in this article to represent persons who *interpret* (i.e., change the language and the mode of communication) and *transliterate* (i.e., change only the mode of communication) (Witter-Merithew & Durst, 1982). Interpreters working in educational settings assist deaf and hard of hearing students both educationally and socially by "lowering communication barriers between these students and others (including teachers other than service providers and peers) within an educational environment (Stuckless, Avery, & Hurwitz, 1989, p. 7)." Although interpreting is the primary responsibility of the educational interpreter, he or she may also be responsible for other job-related activities such as tutoring and note taking.

Hayes (1991) conducted a study of educational interpreters and found little if any communication between classroom teachers and interpreters. Sixty percent of the interpreters surveyed stated that general education teachers did not understand their role. The purpose of the present study was to conduct a national survey of 100 general education teachers working with interpreters in the classroom and determine whether teachers were being provided annual in-service opportunities in regard to educational interpreting.

The present study specifically addressed the following questions:

1. Are school-sponsored in-services about educational interpreting being provided annually to teachers in public schools?
2. Do school-sponsored in-services on other topics exceed the number of in-services about educational interpreting?
3. Are elementary school teachers provided the same number of in-services on educational interpreting as secondary school teachers?
4. What recommendations do general education teachers have concerning future in-services on educational interpreting?

Methods

Subjects

Subjects were selected by identifying public school programs listed in the *American Annals of the Deaf* (Craig & Craig, 1991) from one of seven geographic regions that enrolled students who were deaf or hard of hearing. Using a random table of numbers, programs that serve children from kindergarten through the 12th grade from each state were selected, until 50 elementary and 50 secondary programs were identified. Special education directors or other administrators working directly in special education were asked to give a letter of introduction, the questionnaire, and a self-addressed stamped envelope to a classroom teacher currently working with an educational interpreter. After three weeks, a follow-up letter and questionnaire were sent by the first author to those programs that did not respond.

Seventy (70%) of the participants returned their survey. However, only 59 (59%) of the questionnaires were completed to the degree that they could be used for the study. Data were

Table 1

Surveyed Teachers' Years of Experience Working with an Educational Interpreter

Years	Responses	%
0-1	21	36
2-3	19	32
4-5	7	12
6+	12	20

analyzed based on responses from 42 elementary school teachers (K-8), 11 secondary school teachers, and six teachers working in a combination of settings. We found that most general education teachers taught two to three students who were deaf or hard of hearing on a daily basis. Thirty-six percent of the teachers surveyed had less than one year of experience working with an interpreter (see Table 1).

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Category	Responses	% *
Teacher of the Deaf	14	74
Educational interpreter	6	32
State- or nationally certified interpreter	5	26
Parent of deaf student	2	11
Special education supervisor	4	21
Audiologist	4	21
Speech pathologist	3	16
Regular-education teacher	0	0
Interpreter trainer	1	5

Note. Percentages computed on the basis of responses from the 19 teachers who reported attending an in-service on educational interpreting

Table 2
Presenters of Educational Interpreting In-services, Categorized by Profession

Questionnaire

The questionnaire was developed by the first author based on current information found in a thorough review of the literature, personal interviews, this author's professional contact with educational interpreters, and input from the second author, a certified interpreter. The survey (see Appendix A) consisted of 11 questions, most of which required only a check or a circle, with available space for additional comments. It concluded with one open-ended question. The total amount of time required to complete the questionnaire was figured at about 15 minutes.

Analysis and Results

Survey results were tabulated by staff of the Department of Biometry at the University of Kansas Medical Center using the Statistical Analysis System (SAS). Results were based on the number of responses and reported in percentages. The open-ended question was content analyzed and its comments summarized.

Teachers were first asked about the number of in-services they attended on general topics. Most (70%) reported attending between zero and three in-services during the 1991-1992 school year. The survey did not address the total number of in-services offered to staff and faculty per year. School districts determine the number and focus of each in-service.

When asked to comment on the availability of in-services on educational interpreting, 67% of the 59 teachers surveyed reported that they had not attended an in-service on this topic. Seventeen (90%) of the teachers who did attend such an in-service reported attending only one such program during the school year. Teachers further indicated that the typical in-services on educational interpreting were most often conducted by teachers of the Deaf (74%), educational interpreters (32%), and certified interpreters (26%) (see Table 2).

A comparison of data from the seven geographical regions indicated no significant difference between each region in regard to the number of in-services on educational interpreting that teachers attended. There was no relationship between the educational level of the school (elementary and secondary) and the number of teachers attending in-services on educational interpreting. For example, a teacher at one school with a population of more than 100 deaf and hard of hearing stu-

Issue	Responses	% *
Roles & responsibilities of the educational interpreter	32	54
Environment	29	49
Preparation programs	6	10
Certification: state/national	7	12
Communication methods	23	39
Regular-education teacher's role	31	53
Code of Ethics	8	14
Interpreter as a team member	19	32
Interpreting terminology	10	17

Note. Percentages computed on the basis of 59 completed surveys

Table 3
Issues Covered in In-services on Educational Interpreting

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dents reported having never attended an in-service on educational interpreting. Teachers reported that the educational interpreter (42%), the special education or deaf education teacher (39%), and parents of deaf students (29%) were the "most helpful" in serving as resource personnel as determined on a Leiker scale.

When teachers were asked to evaluate their in-service(s) on educational interpreting, only 14 of 59 (24%) responded. Eight teachers felt that the information was helpful and made their job easier. Specifically, they reported feeling more comfortable working with an interpreter because roles were clarified, they knew who to talk to as questions arose, and they better understood how best to employ an interpreter in the classroom. However, two teachers reported that their in-service did not provide any new information. Four teachers responded to this question simply by listing the topics that had been discussed.

Teachers who attended in-services on educational interpreting were given information on a variety of topics, including the roles and responsibilities of the interpreter (54%), the regular-education teacher's role while working with an educational interpreter (53%), environmental issues (49%) such as lighting, placement, and ambient noise, and various communication methods (49%) such as oral interpreting, cued speech, and different sign systems. Carpal tunnel syndrome, voice-to-sign ratio, cochlear implants, disciplinary procedures, and information on specific students were also in-service topics (see Table 3).

More than half of the in-services were conducted by teachers in special education or deaf education. When teachers were asked to rank future topics that should be included in an in-service on educational interpreters, the three most commonly suggested were the teacher's role with the educational interpreter (72%), the role and responsibilities of the educational interpreter (54%), and environmental issues (32%). Teachers also suggested that more information be included on individualized education programs (IEPs), certification of interpreters, the Code of Ethics of the Registry of Interpreters for the Deaf (RID), and interpreting terminology (see Table 4).

tional interpreting.

Based on completed surveys from 59 general education teachers, several major findings emerged. Although there was a 70% return rate, only 59% of the surveys were used in the study. This seems to indicate that the topic of

Table 4

Issues Recommended for In-services on Educational Interpreting, Reported in Percentage (Rankings: 5 = Most Important, 1 = Least Important)

Issue	Ranking				
	5	4	3	2	1
Teacher's role with the educational interpreter	72	11	8	6	4
Role/responsibility of the educational interpreter	59	28	10	0	4
Environment	32	22	24	19	4
Educational interpreter as a team member	27	33	27	10	4
Communication methods	19	30	19	17	4
Code of ethics	16	22	29	11	20
Interpreting terminology	13	13	34	10	31
Preparation programs	12	18	26	24	20
State/national certification	8	10	25	26	31

Note: Because of rounding, some rows total either 99% or 101%.

Discussion

The purpose of the present study was to survey regular-education elementary and secondary teachers nationwide working with educational interpreters in public school settings. The study focused on information as to the number of general in-services typically offered during a school year, the number of in-services available concerning educational interpreting, the categories of personnel who provided these in-services, and recommendations for future in-services in regard to educational interpreting.

Based on completed surveys from 59 general education teachers, several major findings emerged. Although there was a 70% return rate, only 59% of the surveys were used in the study. This seems to indicate that the topic of in-services on educational interpreting is of interest to general-education teachers.

Of those who provided usable responses, over 67% of general-education teachers working with educational interpreters reported not attending in-services on educational interpreting in the past year. Teachers who did not attend an in-service on educational interpreting received most of their information on this topic from the educational interpreter (42%) or teachers in special education or deaf education

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(39%). The extent to which these professionals are trained to provide such information in an appropriate manner warrants investigation.

The three topics that were most often discussed and recommended for in-services were the roles and responsibilities of the educational interpreter, environmental issues, and the role of the general-education teacher while working with an educational interpreter. This information indicated which areas were of greatest concern and could be used to guide those providing workshops or materials on this topic.

Teachers who attended an in-service on educational interpreting found it beneficial. Teachers felt more comfortable with educational interpreters and better understood the interpreter's roles and responsibilities once they had attended such an in-service. One would expect the working relationship between these professionals to improve after such topics have been discussed.

As more deaf and hard of hearing students and educational interpreters enter general education classrooms, educational staff need to be informed about the appropriate use of the educational interpreter. In-service has proven to be a successful means of imparting needed and desired information. If students who are deaf or hard of hearing are to be successfully mainstreamed, there must be a cooperative effort between the general education teacher and the educational interpreter that enables a collaborative effort among professionals.

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APPENDIX A

QUESTIONNAIRE
Regular Education Teacher

State _____

Directions

Please circle or check all answers that apply to your present educational setting. The terms *interpreter* and *transliterator* will be represented by the term *educational interpreter* throughout the survey. *In-service is defined as a school-sponsored program to provide teachers with growth in job related competencies or skills.* This study will examine the number of in-services provided to teachers working with educational interpreters and topics covered in these settings. Please feel free to add comments in sections marked *other*. Thank you for your cooperation.

I. My classroom and students

A. Grade level of my students

_____ Elementary K-8
_____ Secondary 9-12
_____ Combination levels
_____ List of Combinations

B. Total number of deaf/hard-of-hearing (D/HH) students in my classroom

_____ 1 _____ 6-7
_____ 2-3 _____ 8-10
_____ 4-5 _____ 11+

C. Approximate number of D/HH students enrolled in my school

_____

D. My years of experience working with an educational interpreter

_____ 0-1 _____ 4-5
_____ 2-3 _____ 6+

II. My in-service experience (*1991-92* academic school year)

A. Number of in-services I attended in the *1991-92* school year (general topics)

_____ 0-1 _____ 5-7 _____ 11+
_____ 2-4 _____ 8-10

B. I attended an in-service on educational interpreting

_____ Yes _____ No (If no, please go to II C.)

Number of in-services I attended this year about educational interpreting

_____ 0-1 _____ 5-7
_____ 2-4 _____ 8-10

Average length of my in-service(s) on educational interpreting

_____ 1-2 hours _____ half day _____ full day

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The in-service on educational interpreting was conducted by: (Check all that apply)

____ Teacher of the Deaf
____ Educational interpreter in my school
____ State- or nationally-certified interpreter
____ Parent of a deaf student
____ Special education supervisor
____ Regular-education teacher
____ Interpreter trainer
____ Other (Please specify)

The following is a description of how I did or did not benefit from the in-service I attended on educational interpreting.

II. C. If you answered NO to II B, then where do you feel you have received the most information on educational interpreters?. (1 = most information, 2 = next most, etc.)

____ Educational interpreter
____ Workshops outside my school setting
____ Special education or deaf education teacher
____ Speech pathologist
____ Audiologist
____ Parents
____ Other (Please specify)

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II. D. If you answered YES to II B, what additional resources have provided you with the most information on educational interpreters? (1 = most information, 2 = next most, etc.)

____ Educational interpreter
____ Workshops outside my school setting
____ Special education or deaf education teacher
____ Speech pathologist
____ Audiologist
____ Articles, journals, books
____ Parents
____ Other (Please specify)

_____

_____

III. In-service Information

A. Information I received in my in-services/s (check all that apply)

____ The *role* and *responsibilities* of the educational interpreter, such as working with regular-education students, tutoring, and assisting the teacher in the educational process

____ Environmental issues, such as lighting, environmental noises, appropriate attire,placement of the interpreter and student in the classroom, use of the interpreter at auditorium programs, music and gym class, etc.

____ Summary of preparation programs for interpreters

____ State and national certification information for interpreters

____ Explanation of various communication methods (cued speech, oral, different sign systems) used by interpreters

____ Regular-education teacher's role in working in the classroom setting with an educational interpreter

____ The Registry for Interpreters of the Deaf Code of Ethics and how it had been adapted to the educational interpreter (e.g., confidentiality, conduct, etc.)

____ The interpreter's inclusion as part of the educational team (individualized education program [IEP] process, parent-teacher conferences, etc.)

____ Interpreting terminology

____ Other (Please specify)

_____

_____

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III. B. Topics I recommend for in-services about educational interpreting (Circle one number for each statement based on the following rating scale: **1 = least important; 5 = most important**)

1 2 3 4 5 In-service(s) on the role and responsibilities of the educational interpreter, such as working with regular-education students, tutoring, and assisting the teacher in the educational process

1 2 3 4 5 In-service(s) on environmental issues such as lighting, environmental noise, appropriate attire, placement of the interpreter and students in the classroom, use of the interpreter at auditorium programs, music and gym class, etc.

1 2 3 4 5 In-service(s) on preparation programs for interpreters

1 2 3 4 5 In-service(s) on state and national certification information for interpreters

1 2 3 4 5 In-service(s) on an explanation of various communication methods (oral speech, oral, different sign systems) used by interpreters

1 2 3 4 5 In-service(s) on the regular education teacher's role in working in the classroom setting with an educational interpreter

1 2 3 4 5 In-service(s) on the Registry for Interpreters of the Deaf Code of Ethics and how it has been adapted to the educational interpreter (e.g., confidentiality, conduct, etc.)

1 2 3 4 5 In-service(s) on the interpreter's inclusion as part of the educational team (individualized education program [IEP] process, the parent-teacher conference, etc.)

1 2 3 4 5 In-service(s) on interpreting terminology

Please list other recommendations you have for in-services regarding educational interpreting:

_____

_____

Thank you for your time. All of your personal information will be kept confidential. With your answers, the author hopes to publish the results. Please return your completed questionnaire in the self-addressed envelope provided by **October 19, 1992** to (address provided to questionnaire recipients).

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ESSENTIAL PRACTICES AS ADULTS READ TO MEET THE NEEDS OF DEAF OR HARD OF HEARING STUDENTS

Most deaf or hard of hearing students do not read proficiently (Karchmer, Milone, & Wolk, 1979; Allen, 1986), yet Winzer (1985) found no agreement as to the best way to teach reading to them. We reviewed the literature in related fields in an attempt to assist teachers and parents in identifying practices that are supported by research and linked to literacy attainment. We were especially impressed by the work of Adams (1990) with regard to the practices that promote proficient reading in hearing students, as well as by that of Hoggan and Strong (1994), who studied the techniques of those working with students with language disabilities. The result of our review was a rationale and description of ten practices that we suggest are essential to include when reading to students if they are to become proficient readers themselves. Our work is particularly applicable when adults are using the methods of read aloud, adult/student shared reading, and adult guided reading. These essential practices can be modeled by teachers for parents and others working with students as they develop reading skill.

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In 1989 Adams was commissioned to review the available literature on learning to read. Her exhaustive review of basic and applied research encompassed material from the last 20 years that had been published in educational and psychological materials. The majority of the research cited and explained by Adams involved hearing children. Her work is one of the most highly regarded reviews of the literature on the topic of reading in children (Pearson, 1995).

Hoggan and Strong (1994) identified teaching strategies for use with students who had language learning disabilities and were reading narrative text structure. Support for their work comes primarily from language arts, reading and teaching materials, and an extensive search of the Educational Resources Information Center databases. The 20 strategies described by Hoggan and Strong are included in our practices (with the exception of "music"), although packaged differently and accompanied by research and practice from researchers and educators working with deaf or hard of hearing students. Before delineating the practices we believe are essential for literacy attainment, we provide some background information.

The Language Experiences and Needs of Deaf or Hard of Hearing Students

There are dramatic differences between the language worlds of deaf or hard of hearing students and the spoken language worlds of their hearing peers of the same age (Williams, 1994). Some deaf or hard of hearing students can speechread to some degree, but the task is difficult

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and only half the sounds are indiscriminate from other sounds (Williams, 1994). Students may have opportunities to read with teachers and family members who can communicate with them in analytical, extended conversation about text and some may not. Some students are exposed to signed linguistic models that approximate English meaning and form, and some are not (Luetke-Stahlman, 1988, 1989, 1990; Williams, 1994). Finally, students may be exposed to two languages, American Sign Language (ASL) and English, and/or different modalities of the same language (e.g., spoken, cued, signed, and/or written English).

Because bilingual readers experience the same reading process as monolingual readers (Peregoy & Boyle, 1993), the practices that we have identified are as critical for users of ASL, for whom English is a second language, as they are for monolingual readers. It may be helpful to be aware of recommendations adapted from Cummins (1989). He suggested that parents and teachers be encouraged to use the first language understood by the student (whether oral, cued or signed English, or ASL) when paraphrasing, discussing, and retelling text.

The language difficulties and differences of deaf or hard of hearing students can have consequences for their language and reading development (Brasel & Quigley, 1975; Kampfe & Turecheck, 1987; Lane & Grosjean, 1980; Paul & Jackson, 1993; Paul & Quigley, 1994). Clearly the situation becomes complicated when adults cannot communicate with students. The language of the text and discussions about it are thus not comprehensible. The challenge, at the very least, is to provide deaf or hard of hearing students with accessible language and literacy experiences.

Pioneering studies by several researchers have demonstrated that deficient language abilities do not "prevent young deaf or hard of hearing students from learning about and using written language or participating in literacy events in meaningful ways" (Williams, 1994, p. 128). (Studies by Andrews & Gonzales, 1991; Andrews & Mason, 1986; Andrews & Taylor, 1987; Conway, 1985; Ewoldt, 1985, 1987, 1991; Ewoldt & Saulnier, 1991; Maxwell, 1984; and Rottenberg & Searfoss, 1992 are reviewed in Williams, 1994). Our challenge appears to be to ensure these experiences for students of all ages.

Why Aren't Many Are Deaf or Hard of Hearing Students Proficient Readers?

Some young deaf or hard of hearing students might have "extensive knowledge of written language despite severe language delay" (p. 150; Williams, 1994), but most do not. Student variables that researchers (e.g., Williams, 1994) have explored as contributors to the documented disruption of literacy development include difficulties in the ability to processing English syntax (Geers & Moog, 1989; Hanson, 1991; Luetke-Stahlman, 1988; Quigley & Power, 1972), difficulties in accessing phonological processing (Hanson, 1991; Leybaert, 1993), and difficulties in utilizing short-term memory efficiently (Bellugi, Klima, & Siple, 1975; Kelly, 1995). Variables pertaining to adult behavior have focused in part on instructional practices (e.g., attention to students' weaknesses in the area of phonology and syntax, rather than on their strengths in the areas of semantics) (Ewoldt, 1981, 1985; Gormley & McGill-Franzen, 1978; Rodda, Cummings, & Fewer, 1993; Williams, 1994; Yurkowski & Ewoldt, 1986). Given these findings, we have expanded the essential practices documented in related fields to reflect student and adult needs in our field as cited above. Our work emphasizes the significant role adults can play in assisting students to read proficiently.

Adult Facilitation of Text Reading and Comprehension

The practice of adults reading to students of all ages has been highly acclaimed by educators and researchers alike (Hoggan & Strong, 1994). Research has documented that such mediated experiences aid semantic and syntactic language development (Chomsky, 1972; Holdaway, 1979; Irwin, 1960; Karweit, 1989; Ninio, 1980; Peterman, 1988). They also enhance the development of schema for the forms, functions, and conventions of print (Applebee, 1978; Cochran-Smith, 1984; Dickinson & Snow, 1987; Stein & Glen, 1979; Teale, 1984). In addition, involvement in a regular routine of reading fosters the development of book related behaviors and the decontextualization of the printed language (Cochran-Smith, 1984; Heath, 1982; Snow, 1983), which in turn affects comprehension (Green & Harker, 1982; Morrow, 1986).

Reading with adults has been found to affect student reading ability (Clark, 1976; Durkin, 1966), achievement (Flood, 1977; Wells, 1985), interest in books (Morrow, 1983), and language development (Gelzer, 1988; Heath, 1983; Taylor & Dorsey-Gaines, 1988; Snow & Goldfield, 1983; Snow, Nathan, & Perlmann, 1985). It encourages student's questions (Morrow, 1988; Yaden, Smolkin, & Conlon, 1989), discussions about text (Roser & Martinez, 1985), and a variety and depth of student responses (Hickman, 1981; Morrow, 1988). Gelzer (1988) found that adults reading to deaf or hard of hearing students motivated them to read, promoted reading growth, and modeled how enjoyable interactions with others could be.

We suggest that adults read to students often and in a systematic manner. Unlike proficient hearing readers who typically interact pleasurably as they share text frequently with their parents (Adams, 1990; Clark, 1976; Durkin, 1966), deaf or hard of hearing students often are not read to. Therefore, these children miss social opportunities incorporated into literacy experiences (Marschark, 1993; Webster, 1986). Left only to reading groups at school, they might only observe the

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reading of other poor readers if adults do not read to them. Yet, as is illustrated below, adults can facilitate the reading and comprehension of both narrative and expository text using the methods of *read aloud*, *adult/student shared reading*, and *adult guided reading*. Special materials are not required, but rather that materials be used in special ways (McCoy, 1995).

Read aloud is a method of reading out loud by adults to emergent and beginning readers that we recommend for students of all ages. It includes the elements of *access* and *mediation*. Access addresses the quantitative — who is being read to, how often, and whether the language or mode used is understood by the student. Mediation addresses the qualitative — who is involved in the process and what they are communicating to each other.

Shared reading is "an instructional strategy in which the adult invites a group of emergent and beginning readers to join in the reading of a particular 'big' book (about four times the size of a typical story book) such that the development of beginning literacy and reading strategies are facilitated" (Harris & Hodges, 1995). The meaning of the text is negotiated together, as students are encouraged to read along. The text is reread several times and later independently.

Adult guided reading (AGR) is also called *guided reading* or *directed reading activity*. In the prereading stage of AGR, students set their own purposes for reading by making predictions. During reading they verify their predictions and in the postreading discussion stage they check them (Harris & Hodges, 1995). A more advanced version of this method is the directed reading/thinking activity (DRTA) (Stauffer, 1969). When students are able to summarize, question, predict, and clarify material, the method of reciprocal teaching can be employed so that they begin to take responsibility for comprehension (Andrews & Mason, 1986; Palincsar & Brown, 1986). Most basal reading programs have AGR lessons and Stauffer (1969) found that DRT is effective for a variety of text.

Narrative and Expository Texts

Narrative text may be defined as "event-based experiences" (Graesser, Golding, & Long, 1991) that are real life experiences, such as the events that occurred when a parent and child shopped for groceries or fictitious events created by an author and communicated to a reader in the written form of a story or a novel. Folktales are an example of narrative passed down in the oral tradition and currently seen in written form. The basic elements of narratives are setting and one or more episodes in which a character or characters has a goal or goals, attempts to reach the goal(s), resulting in some outcome of the attempt(s). A simple real life example follows:

> *Yesterday I went to the store with my dad* (setting). *We wanted to get mint chocolate chip ice cream for my birthday party* (goal). *We searched through the freezer case* (attempt), *but the store was all out of my favorite flavor. I decided to get plain chocolate chip instead* (outcome).

Howard (1991) has argued that narrative story development is the foundation of human thinking. Dickinson and Snow (1987), Lindfors (1987) and McCabe and Rollins (1994) noted that weak conversational narrative skills affect the academic success of students, obstructing a critical bridge to print literacy.

Expository text is different from narrative text in several ways. While the primary purpose of narrative text is to entertain, the primary purpose of expository text is to communicate information on a particular topic (Weaver & Kintsch, 1991). Narrative text has one basic structure that repeats itself (setting and one or more episodes); expository text has many structures commonly seen in textbooks, newspapers, encyclopedias, how-to manuals, etc. These structures are organized in a variety of ways including cause/effect, comparison/contrast, enumeration/description, and problem/solution(s). Inability to comprehend the structure of the subject area logically affects academic success. deVilliers (1995) found that expository text is especially difficult for deaf or hard of hearing students because they often lack background knowledge about topics. He also noted that the text structures are new and the grammatical forms are complex.

The two categories of narrative and expository text are emphasized in education and reflect different English syntactical demands. For example, Longacre (1984) noted that "narratives are agent focused and chronologically based while expository text involves objects and ideas and is logically-based" (cited in Scott, 1995, p. 111). Narratives contain high frequencies of names alternating with perfect forms (e.g., have finished, has loved) to distinguish background information, temporal connectives, and relative clauses (e.g., The girl that was pretty.). The grammar of expository text includes present tense, attributive adjectives, passive (e.g., It was given to him.), nominalization (e.g., His fighting was courageous.), and pre- and postmodification of nouns (e.g., two species growing side by side; Scott, 1995). Because of the language needs of most deaf or hard of hearing students, it is understandable that they would have difficulty reading both narrative and expository texts.

Adults Get Ready to Read

Adults need to plan their reading sessions with deaf or hard of hearing students carefully. Prior to beginning to read, they should *choose an appropriate narrative or expository text* with a particular goal in mind (e.g., attention to schema, core theme, specific vocabulary words, phrase, ease in signing, phonemic awareness, students' interest, etc.).

Stewig, Bennett, and Bonikowski (1992) developed a suitability index

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for children's books and provided a criteria and a list of recommended books for deaf preschool through 2nd grade children. They considered variables such as reading rate, sentence length, quantity of text used to express thoughts, word imagery, and ease of translation. Deaf storyreaders at the Kansas School for the Deaf (KSD) reviewed over 250 storybooks. Based on their comments, Hayes and Shaw (1993) developed guidelines for selecting read aloud books for preschool through 8th grade students. Books were evaluated on the basis of five main categories: illustrations, plot, characters, setting, and English language/vocabulary. Books determined to be appropriate were videotaped and placed in the KSD library with a copy of the storybook.

Carlsen (1985), Luetke-Stahlman and Luckner (1991), and Stewart and Cegelka (1995) noted that for the greatest gains in achieving literacy, text should be meaningful, connected, and *slightly above the vocabulary and syntactic maturity of the students*. That is, adults should choose text to read that is challenging but within the student's zone of proximal development (Vygotsky, 1978).

The Essential Practices

We believe adults can be partners with deaf or hard of hearing students in acquiring literate behaviors in an enjoyable manner by including practices that promote text awareness and comprehension. We have written this paper to exemplify this process, and have purposely avoided terms historically used in such discussion (e.g., bottom-up models, whole language, etc.). Webster, Beveridge, and Reed (in press) emphasized that such jargon does not help to identify how a student's reading behavior interacts with a wide range of text forms or the literacy challenges presented in the different subject domains of the curriculum. Instead, we have attempted to specify the essential practices of alternative approaches (Kelly, 1995).

1. *Adults should focus on the purpose and enjoyment of reading.*

Williams (1994) suggested that the poor literacy achievement of deaf or hard of hearing students might be due to a lack of early, intensive experiences with print that are personal, authentic, and meaningful. "It is not just reading to children that makes the difference, it is enjoying the books with them and reflecting on their form and content... developing and supporting curiosity... encouraging the students to examine the print... and showing them that we value and enjoy reading and that we hope they will, too" (Wigfield and Asher, quoted by Adams, 1990, p. 87).

Some deaf parents (Schleper, 1995) and parents who are hard of hearing (Andrews & Taylor, 1987) have been observed to provide positive interactive environments while reading. Sometimes they engaged in activities such as clarifying specific vocabulary and expanding concepts. Other times they provided a mutually rewarding atmosphere that encouraged creative interpretation of the text (Andrews & Taylor, 1987; Schleper, 1995). Similar accounts of parents using some kind of English-based signing are also available (Lartz & Lestina, 1993; Schlesinger & Meadow, 1972; Maxwell, 1984). These have demonstrated that hearing parents of deaf or hard of hearing students can create positive reading sessions in a manner similar to that experienced by hearing children. This is not always the case, however. Hearing abilities differ among deaf or hard of hearing students and most cannot access print and discussion about stories and text through listening and speech. Instead, they need cues or signs (alone or in conjunction with what is being said) to make conversation understandable. It is not surprising then that when elementary and middle-school aged students were interviewed by Ewoldt (1986) only 20% reported ever having read with their parents. Schleper (1995) found that undergraduates interviewed at Gallaudet University did not enjoy having stories read to them as youngsters and remembered reading as an unpleasant experience.

Gelzer (1988) found that when adults read to students they can experience the joy of playing with new vocabulary, listening to rhythmical language patterns, and encountering new ideas that stimulate and reinforce their imagination and curiosity. She noted that "one of the most effective strategies of all is to set a good example. Children should frequently catch their parents, teachers, and other adults, in the act of reading and enjoying it" (p. 16).

Webster (1986) suggested that reading sessions be short and that adults should not be preoccupied. Praise and encouragement in a quiet, relaxed situation, with the emphasis on enjoyment is further suggested. Gelzer (1988) provided parents with basic tips for developing reading appreciation in deaf or hard of hearing students, including signing considerations, English language considerations, using expression, establishing rapport, asking questions, and engaging in follow-up activities. Hafer, Richmond-Hearty, and Swann (1991) wrote a similar article for teachers.

2. *Adults should use the students dominant language in an interactive dialogue, asking open-ended questioning, allowing for prediction, and encouraging risk-taking such that students move out of their present comfort zone and acquire new insights. Adult works to create an environment in which each student can make "cognitive leaps" (Hayden, 1987), bridging what is understood and can be understood with adult support.*

Adult child proximation is a term coined by Webster, Beveridge, & Reed (in press) to refer to those times when adults help students construct accounts of events in terms they understand, thus, the *dialogue* among participants is as important as the *information* provided by the text in terms of what is remembered by the student. Vygotsky (1978) noted that reading to students is

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an example of a social event of the kind that is essential for intellectual development. Adult behaviors of supporting, modeling, and scaffolding responses and questions builds a bridge between what a student knows and is coming to know and moves the student from dependence to independence. Thus, from a Vygotskian perspective, the adult is the mediator between the familiar contextualized (spoken, spoken and signed, or signed) language and the decontextualized language of texts and instructional conversations. Interactive dialogue is a key element in the text reading experience (Adams, 1990). It has been recommend for use with deaf or hard of hearing students by Andrews (1984) and Andrews and Mason (1986).

3. *Adults should provide a Preparatory Set (Hoggan & Strong, 1994) or Text Introduction (Clay, 1985). Adults begin by showing the material to be read to the students and assessing what is known and unknown about it. DeFord, Lyons, and Pinnell (1991) recommended that adults discuss the text, using the specific vocabulary and figurative expressions that appear in the work, while encouraging students to use background knowledge and make predictions.*

Andrews, Winograd, and DeVille (1996) found that when seven 11- to 12-year-old deaf or hard of hearing students were provided signed summaries of stories prior to reading them, their retell of the stories improved. Gelzer (1988) delineated the steps in introducing a story to a deaf or hard of hearing student: (a) looking at the cover and title and making predictions, (b) discussing the topic and characters and relating them to past experiences, and (c) deciding how the book will be held. Satchwell (1993) defined the strategy of prediction as one in which deaf elementary aged readers quickly previewed material to be read and stated what they already knew or might guess about the text. "This is considered to be very important as it helps give a mindset to what will be read" (p. 40). Preparatory Set was one of the strategies found by Satchwell (1993) to have the most positive effect on reading ability.

4. *Adults should relate the student's life to the text, the text to the student's life, and the text to the world beyond the book through interactive dialogue (Cochran-Smith, 1984; Heath, 1983). They should view misconceptions or gaps about knowledge as opportunities for learning and build on what a student already knows, no matter how insufficient (Ciborowski, 1995). Adults can model "think alouds" — conversing about what they are thinking — in making life-to-text connections and predictions.*

Many students come to school lacking narrative and expository text experiences (Ewoldt, 1986; Feitelson & Goldstein, 1986; Heath, 1982; Williams, 1994). Even when they have been read to at home, Heath (1982) and Ninio and Bruner (1978), found that some students focused on text structure and meaning, behaviors that facilitated success in school literacy experiences, while other children had acquired behaviors (e.g., discrete bits and pieces of book — separate items, letters of the alphabet, shapes, colors and labels of items) that were a mismatch with the demands at school. Heath (1982) found students in this latter group were not asked to make connections between text and real world experiences, and thus, could not decontextualize (shift into other experiences) their knowledge of events. The students experienced difficulty with discussion about and comprehension of text. They progressively evidenced more difficulty in literacy tasks, which was particularly noticeable around the 4th grade. Deaf or hard of hearing students have also been found to experience difficulties with reading at about this same age (Research reviewed by King & Quigley, 1985).

Cochran-Smith (1984) coined the terms "life-to-text" and "text-to-life" for adult mediation behaviors during reading of relating the text and the students' personal experiences. She found that during these interactions, adults taught the students how to make sense of text by bringing to life the extratextual information. This was done by calling up broad sources of prior knowledge (lexical labels, narrative structure, literacy and cultural heritage, and conventions) needed in order to make intertextual sense. She also witnessed text-to-life interactions where text was connected with student's lives. Williams (1994) found in an ethnographic study of the literacy development of three young (3- to 5-year-old) deaf or hard of hearing students that teachers routinely made life-to-text, text-to-life and life-to- (previously read) text connections. Bilson (1995) surveyed residential school teachers of the deaf (P-4th grade) and found that 72% included a discussion on life-to-text and text-to-life connections during read aloud sessions. Satchwell (1993) found that the reading abilities of five elementary aged deaf students improved when they were helped to use the strategies of associating and inferring. Kelly (1995) also found that older high and average deaf readers used their world knowledge to comprehend texts.

Traditionally, notebooks with passages about home and school events and copies of books used at school have traveled back and forth between families and teachers, such that text-to-life and life-to-text connections can be enhanced. Deaf or hard of hearing students benefit when connections are made across school subject texts and discussions by a consistent educator throughout the school day.

5. *Adults should model concepts of print using authentic materials.*

Concepts of print are those basic understandings about how English print works (e.g., left to right, return sweep, stop at a period). These concepts include how sentences are written as well as the language used in talking about print. Therefore, using periods, quotation marks, paragraphs,

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the concept of letter versus that of word, and the use of the table of contents or glossary are all such concepts. Andrews and Akamatsu (1993) stated that it is critical that adults use correct signs for the elements of print. Obviously, students who are reliant on sign still need labels for terms such as exclamation point, silent *e*, and so forth and the authors provided signs for technical vocabulary that adults might use. Cues or fingerspelling might also be used to accomplish this goal. Luetke-Stahlman (in progress) found that one deaf student, studied intensively as she developed 1st, and later 2nd, grade reading skills, was able to learn the basic concepts of print when they were paired with specific signs. As a 2nd grader, the child was learning the difference between a paragraph and a chapter (the signs for which were highly similar in the manual code she was using), identifying a sentence as compared to a paragraph, and using the table of contents, index, and glossary. Kretschmer (1989) called for direct instruction of "typography cues" (p.213) such as headings and subheadings with deaf or hard of hearing students.

6. *Adults should discuss the text structure or schema for the story and its elements (e.g., characters, setting, problems/goals, conclusion/resolution) and for expository text structure (e.g., comparison and contrast, cause and effect) and plan writing activities that allow for the development of each student's inner appreciation and comprehension of these (McAnnally, Rose, & Quigley, 1994).*

Text structure is a mental framework that guides understanding and assists a student's comprehension of material, which develops over time as opportunities for repeated experiences with narrative or expository text occur. Weintraub (1984) emphasized that experience with plots and themes with young deaf or hard of hearing children will help them to anticipate events and characters in more complicated stories.

Text structure is generally tapped by having a student retell or rewrite a piece such that their understanding of schema is revealed. For example, Yoshinaga, Itano, & Snyder (1984) analyzed written language samples from deaf or hard of hearing students using a model of story development and found that 50% of the subjects did not retell the basic components necessary for a story (compared with 7% of the hearing participants). Kluwin and Papalia (1989) found in a study of 30 young elementary students that the ability to comprehend questions about a text and involving predictions were related to the ability to retrieve the salient elements of its structure. Graphic organizers, word webs, charts, and Venn diagrams assist students in retelling as they can provide a visualization of how information is related (Luetke-Stahlman & Luckner, 1991). Luetke-Stahlman (in progress) found that story frames and story starters limited a deaf 2nd grader in her ability to write a detailed written retell that included the text components she had been studying. Specific reading activities to enhance text structure, enjoyment, and comprehension of the use and form of English have been explained by Maxwell (1986), who advised that "if ASL is one of the languages used, the signed words will not match the print but the episodic (event) units will" (p. 16).

7. *Adults should facilitate word recognition skills (e.g., modeling the use of visual, meaning, and/or structural cues) that involve phonological awareness and/or orthographic awareness. Examples of orthographic knowledge include student's realization that words are formed or spelled in some predictable ways. Structural analysis involves the realization that when prefixes and suffixes are added or removed from words the meaning is affected. For example, when a specific word such as* comfort, comfortable, *or* uncomfortable *is used, the meaning of the utterances is modified.*

We use the term word recognition in this paper to include the development of sight vocabulary, phonemic cues (sound-system cues), orthographic knowledge, and structural analysis. Thus both phonological and orthographic awareness are involved and we recognize that while some profoundly deaf children will not be able to utilize phonology to recognize words, many will (Dodd, 1987; Hanson, 1991). Hanson (1989) clarified that phonological linguistic units "are not sounds, but rather a set of meaningless primitives out of which meaning units are formed" (p.73). Deaf or hard of hearing students may be able to develop an awareness of English phonology through speech articulatory, production movements, and speech reading. Some studies have illustrated that phonological awareness is *not* dependent on speech reading or speech articulation abilities (Conrad, 1979; Hanson, 1982; Kelly, 1995; LaSasso, 1996; Lichtenstein, 1983, 1985; Marschark, 1993; Reynolds, 1986). Conrad (1979) found that phonological coders were better readers, regardless of hearing loss.

Given training, some students with hearing loss will be able to master phonological awareness skills (for a review of the literature as to the robust contribution of this ability in becoming a proficient reader, see Adams, 1990; Liberman, Shankweiler, & Liberman, 1989; and Torgesen, 1994). Such ability will support their word recognition efforts as readers. (See for example, Dodd, 1987; Hanson, 1989; Hanson & Fowler, 1987; and Luetke-Stahlman, in progress). This is especially true for the large number of students who are hard of hearing (Schein & Delk, 1974; Schildroft, 1996). The situation is improved further for these students when hearing aids, cochlear implant equipment, and FM systems are used, and when learning occurs in quiet environments. Given individual differences, adults should model a variety of word recognition strategies when they read to students.

Andrews and Akamatsu (1993) stated that it is important for adults to make sign to print relationships explicit when they read to students. They

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found that deaf or hard of hearing students acquired significantly greater letter, word, and story reading abilities than deaf children for which these associations were not made. Schaper and Reitsma (1993) studied 73 orally educated students, 6 to 13 years of age and found that older children tended to differentiate and prefer either a visual or a speech-based strategy when reading and recalling written words. "The latter [speech-based strategy] was found to be associated with better performance in reading tasks" (p.46). Good secondary and college aged deaf readers were found to utilize phonological coding as compared with poor, deaf readers (Conrad, 1979; Hanson, Goodell, & Perfetti, 1991; Kelly, 1995; Schaper & Reitsma, 1993) (For further review of this topic with deaf or hard of hearing students, see Wandel, 1989). For these reasons, Luetke-Stahlman and Luckner (1991) recommended the inclusion of phonological awareness training when deaf or hard of hearing students are assessed as capable of benefiting from phonetic decoding and recoding training.

Adams (1990) as well as Hanson, Liberman and Shankweiler, (1984) advocated that "word work" be modeled by adults as they read to students and be based on recently read text or portion of a text. The term is used to describe such activities as "odd one out" (several words from the text with a similar property presented with a foil and the students were asked to explain which words are similar and why). Additional activities include comparing letter names to the sounds they make, segmenting (breaking the word from the text into its component sounds), blending (combining isolated sounds to make a word from the text), and rhyming. The ability to segment and blend appears to enable initial reading, whereas reading itself appears to enable the development of the skill of deletion (e.g., 'skill' minus the /sk/ sound is _____). This skill is considered the best predictor of reading success according to many, among them Perfetti, Beck, Bell, and Hughes (1987). Luetke-Stahlman (in progress) studied word work with a deaf child as she progressed from 1st to 2nd grade and found that her progress was slow but steady. Despite a four year language delay the girl read on grade level. Becker (1993) also stated that phonetic word analysis skills required more practice time for deaf or hard of hearing students.

Cunningham and Stanovich (1990, 1993) found that hearing 3rd and 4th graders demonstrated orthographic processing ability as contributing in part to success with word recognition. Deaf or hard of hearing students might logically benefit from adults modeling orthographic awareness as they read to children as well. In addition, we are assuming that exposure to a wide variety of the forms and functions of print is occurring at other times throughout the day (Cochran-Smith, 1984; Dickinson & Snow, 1987; Teale, 1984). To this end, the word work computer program developed by Baer, Invernizzi, Templeton, and Johnson (1996) is currently being studied by Luetke-Stahlman (in progress) for use with deaf children.

Adult modeling of orthographic awareness can help profoundly deaf children, especially on the predictable sequences of letters that form word parts and wholes. Stanovich (1994) promoted explicit instructions as opposed to self-discovery as a more efficacious mode of learning word recognition skills. Adults might divide words into syllables (orally or via fingerspelling). They might also encourage the listing of words in the same family as a target word (e.g., walk, talk, etc.).

8. *Adults should discuss the meaning of specific words and phrases (e.g., calling attention to picture cues, explaining, defining, paraphrasing, providing synonyms and antonyms) with students after whole chunks of text or discussion have occurred. They should encourage repeated readings of difficult words, sentences, paragraphs, or text (Adams, 1990; Engen, 1995; Snow, 1993; Topol, 1995) to aid text comprehension.*

Marschark (1993) clarified that "at its most essential level, competent reading requires recognition of the words on a printed page" (p.208). Gartner, Trehub, & Mackay-Soroka (1993) studied 104 children who were 4 to 14 years of age and both hearing and deaf or hard of hearing and found that the ability of deaf or hard of hearing students to distinguish between words and their referents lagged considerably behind that of their hearing peers. Subjects also had difficulty defining words (see also reviews in Paul & Jackson, 1993; Paul & Quigley, 1984) and evidenced significant reading delays. Moores (1987) and Quigley and Paul (1984) confirmed that the largest reading related deficits of students who were deaf or hard of hearing were in the area of vocabulary knowledge. These were in sign, oral, and written productions (Everhart & Marschark, 1988; Griswold & Cummings, 1974; King & Quigley, 1985). Other areas of meaning found to be impaired in samples of deaf or hard of hearing students include anaphoric relationships within conjoined sentences (Wilbur & Goodhard, 1985), figurative English (Giorcelli, 1982; Paul, 1984; Payne, 1982; Payne & Quigley, 1987), inferences (Wilson, 1979), and multiple meanings (Blackwell, Engen, Fischgrund, & Zarcadoolas, 1978). The semantic needs of deaf or hard of hearing students can have an effect on adults reading as adults who become more controlling, more dominant with the dialogue, unable to converse about topics due to the lack of turn-taking abilities of the children, and frustrated with feedback on how much text is actually comprehended.

To assist in facilitating the development of meaning, adults need to engage deaf or hard of hearing students in dialogue to explain, define, and discuss concepts as they read to them in the same ways that adults talk with hearing children. Preteaching of difficult vocabulary should be replaced by

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discussion of specific vocabulary and figurative phrases using strategy talk and instructional mediation. Adults might model rereading as a strategy of predicting correct word replacement (Andrews & Mason, 1991), a practice which has been found to affect the depth of student response (Hickman, 1981) and literacy achievement (Cochran-Smith, 1984; Flood, 1977; Morrow, O'Connor, & Smith, 1990; Nielsen, 1993).

Dickinson and Smith (1994) suggested that the type of scaffolding conducted by adults to facilitate comprehension of instructional discourse and text as they read to children is as important as the cognitive concepts presented. For example, Hoggan and Strong (1994) found that "extensions" were recommended by many researchers "to clarify meanings, guide students in more abstract interpretations of particular words, and invite the student to add comments and examples" (p. 80). "Analytical talk," in which adults ask students to think beyond the information provided, has been found to be critical to academic success (Cummins, 1989; Dickinson & Smith, 1994, p. 74). Along these same lines, Hoggan and Strong (1994) recommended that adults question students as they read to them "whenever opportunities arise for making predictions, drawing inferences, classifying information, justifying actions, or assuming the role (perspective) of the characters" (p. 81).

Hoggan and Strong (1994) recommended that specific visualization (story mapping) be modeled by adults as they read. This idea is supported by a number of researchers in their field. (See Hoggan & Strong, 1994 for a review.) Hoggan and Strong clarified that both episode mapping (focusing on individual aspects) and text mapping (focusing on the piece as a whole) are beneficial and can be used interchangeably. Luckner and Humphries (1992) and Luetke-Stahlman and Luckner (1991) recommended that pictures and word webs, flow charts, and graphic organizers be utilized to aid comprehension. They provide multiple examples.

9. ***Adults should model and discuss the grammar of the story and the structural rules as they are needed to understand the story. These encourage repeated readings of difficult words, sentences, passages, or whole texts (Adams, 1990; Andrews & Mason, 1991; Engen, 1995; Topol, 1995).***

Many deaf or hard of hearing students do not comprehend or utilize syntactic properties in their reading and writing (e.g., affixes, function words, morphology, subordinate structures, verb inflections, pronouns, and question formations) (See Paul & Quigley, 1994 for details). When adults are cognizant of specific student syntactic needs they can choose reading materials for sharing that include specific linguistic structures and use the story to reinforce structures emerging in student language (Weintraub, 1984).

Luetke-Stahlman (1990) found that elementary aged students with severe and profound hearing losses who were exposed to grammatically complete and literally communicated modes of communication (i.e., oral English, Seeing Essential English, Signing Exact English) scored higher on vocabulary, form, and reading tests than did students exposed to manual forms of English that did not encode the grammar of the language. Engen (1995) recommended that the direct instruction of the "fragile properties of English should occur in meaningful context with explicit attention to the literate use of these properties". For example, an adult might explain the use of the past perfect tense, "has had" to indicate a "flash back". Once the content of the text is understood by a student, adults should focus on form, allowing imitation of linguistic models (Huang & Hatch, 1978), grammatically expanding the student's utterances, and using syntax that is only slightly more developmentally complex than that of the student as the text being read is discussed (Luetke-Stahlman, 1991).

With regard to "exploring the structure and the functions of the text" (p. 11), Rogers (1989) demonstrated improvement in English language ability when adults systematically read to deaf or hard of hearing students at a residential school. She reported that 10 students showed receptive gains in English (Engen & Engen, 1983) as well as gains in expressive skills for prompted and imitated production (Moog & Geers, 1985). These were higher scores than the deaf norming population for the tests used, although lower than the norms for hearing peers. In addition, Rogers (1989) confirmed that deaf or hard of hearing students particularly enjoyed having text reread.

10. ***Adults should employ a variety of response modes to text (Gelzer, 1988; Hickman, 1981; Weintraub, 1984).***

Some literacy related goals are best facilitated in verbal and nonverbal activities which are completed after an adult has finished reading a story or text. For example, given stories with repetitive and rhyming words that provide a structure for creating new versions, adults might encourage students to substitute sounds and letters from the original (e.g., based on *Down By the Bay* by Raffi, 1987, students can be guided to create their own nonsense rhyming text such as, "Did you ever see a dog, riding a hog?").

Adults can cover up specific words on the chart and ask students to use syntax and semantic cues to help them figure out the covered words to facilitate the development of basic sight words and the use of cueing systems after text has been retold as a chart story. Students also can be encouraged to reread text alone or with a peer during free time. In addition, students can be asked to retell or write about any story or text using a graphic organizer as an aid.

Developing potential test questions and discussing other outcomes are also beneficial response activities. Older students might employ the SQ3R approach with expository text (i.e., sur-

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vey the text, question themselves, read, respond to the questions, and review the material). Miller and Rosenthal (1995) found that summarizing text assisted ASL users.

Smaller copies of shortened versions of stories or a second set of school subject books can be taken home for additional experience with familiar text. Signed versions can be sent home on videotape to assist parents in rereads. The Visual Storyreading Series, developed at the KSD, is an example of a procedure that could be followed. Videotape and book packets of popular signed stories are available on videotape in the KSD library. Parents are encouraged to check out materials, watch the videotape with their child, and read or look at the pictures in the storybook.

Conclusion

An impressive amount of quality research has substantiated the benefit to students when parents read to them at home. When such experiences do not occur, occur infrequently, or occur in a manner that is not comprehensible to a student, adults at school could intervene and provide frequent and systematic literacy experiences. Adult reading in this manner, whether structured as read aloud, shared reading, or adult guided reading, should include both access to information and mediated dialogue and can use narrative or expository text as a medium.

In this paper we have provided a rationale for including at least ten essential practices in the process of adult reading to deaf or hard of hearing students. We have provided specific adult actions and supported each with research from the field of deaf education where possible. These essential practices can be modeled by teachers for parents and others working with students as they develop reading skill.

Specific examples using both narrative and expository texts are available from us and will be published soon in *Perspectives in Education and Deafness*. It is our hope that this work will be utilized in preservice and inservice training such that current and future teachers are encouraged to include these practices as they read with deaf or hard of hearing students of all ages, and as teachers work with parents and others who support the development of these students as proficient readers.

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